



ARCHAEOLOGY

SUMMER 1960

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Left to right: Bronze horse-bit cheek piece. Luristan, Iran. c. 11th Century B.C. Height 4¾".
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ARCHAEOLOGY

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editorially speaking . . .

An almost forgotten novelist said it as well as anyone:

" . . . Excavation, whether it be for shores, for treasure, or for papyri and mummies, is an absorbing and thrilling interest almost without a parallel. It is usually also harmless, and this cannot be said of Vivisection or War, or Gambling on the Stock Exchange." (From *Joseph Vance*, by William De Morgan).

To this absorbing interest we owe the acquisition of fifteen hundred readers who have joined us this year, beginning their subscriptions with the Mycenaean issue (which, incidentally, has been gratifyingly well received by professionals and amateurs alike). With the second number of 1960 we return to our normal practice of including an assortment of articles from various parts of the world. Following numbers will include reports of archaeological discoveries in Italy, Germany, Denmark, Norway, Persia, Canada and the U.S.A. So much is going on everywhere, in fact, that it is a problem to keep up with the latest developments.

The ARCHAEOLOGICAL INSTITUTE OF AMERICA, which publishes *ARCHAEOLOGY*, is the parent also of a considerably older quarterly, the *American Journal of Archaeology*, founded in 1885. Intended chiefly for the professional archaeologist in Classical and Near Eastern fields, it often contains articles (generously illustrated) which may be of interest to the amateur, as well as numerous book reviews, including both Old and New World archaeology. Subscription is \$10.00 a year. Membership in the Institute, which brings participation in the programs of the local societies (now forty-eight in all), is open to everyone interested in archaeology. Details may be obtained from the General Secretary, 5 Washington Square North, New York 3, New York.

In contrast to the pretentious "coffee table books," today so ubiquitous, are some attractive illustrated booklets which present fascinating commentaries on the life of the ancient Athenians. Prepared for the general reader by the staff of the Athenian Agora, they are pleasant to handle and easy to read. Thus far four have appeared: *Pots and Pans of Classical Athens*, *The Stoa of Attalos II in Athens*, *Miniature Sculpture from the Athenian Agora* and *The Athenian Citizen*. These may be obtained at fifty cents each (postpaid) from the American School of Classical Studies, c/o Institute for Advanced Study, Princeton, New Jersey.

A question often asked is, "When does archaeology stop?" and the best answer is perhaps, "The day before yesterday." While most interest is naturally centered on ancient periods, valuable information about more recent times can be deduced by using archaeological methods. Several examples which have recently come to our attention suggest what can be done in this field. "Dating of Mining Camps with Tin Cans and Bottles" is the title of an article by Charles B. Hunt (*GeoTimes* 3 [1959]). Changes in manufacturing methods, variations in the composition of glass and other such criteria are made to yield interesting facts concerning mining camps less than one hundred years old, with the practical purpose, as well, of learning "whether the periods of activity correlate with the swings in the economic cycle or with the type and grade of ore being mined."

"Evidence in Empty Bottles" by Rex L. Wilson (*El Palacio* 66 [1959] 120-123) throws many interesting side-lights on the life and habits of soldiers at a frontier army post (Fort Union, New Mexico). And in an article, "Indian Trade Goods," by Arthur Woodward (in several recent numbers of *Screenings*, the bulletin of the Oregon Archaeological Society), the study of buttons is shown to be a rewarding occupation leading to a more complete knowledge of recent history. Which reminds us of an inscribed metal disk unearthed in our own back yard, on which, after washing, brushing and painstaking examination had been carried out, could be deciphered the words ". . . Pepsodent Co.!"

ON THE COVER: Pottery mask
Peruvian, Paracas-Cavernas style.
Photo by Nickolas Muray.



A CEREMONIAL POTTERY MASK FROM PERU

By S. K. LOTHROP

Peabody Museum, Harvard University

IN MANY PARTS OF THE NEW WORLD, from the Eskimo in the north to the Ona and Yahgan tribes of Tierra del Fuego, masks have been worn during religious ceremonies, often to disguise their wearers as gods or spirits. Usually the material is wood—carved, painted and at times adorned with inlays or incrustations of shell or semiprecious stones. Bark or bark cloth, metal, hide, woven fabrics, stone and occasionally pottery have also been used for masks.

A polychrome pottery mask from Peru has recently been added to the Robert Woods Bliss collection in Washington. This unusual object, shown on the cover, is adorned with the lacquer-like paint characteristic of Paracas-Cavernas vessels, a ceramic style prevalent on the south coast of Peru at the beginning of the Christian era. It reflects a specific convention for depicting the human face in death, with eyes closed and mouth open. This type of portrayal extended northward at least as far as central Mexico, where older examples have been found than in South America.

It is curious that few ancient masks have been found on the coast of Peru, because there is ample evidence of complex religious symbolism and because the arid climate has permitted the survival of normally perishable materials. To be sure, "mummy masks" have been collected in quantity. These are false heads which were

attached to the cloth bundles in which the dead were wrapped. Almost always they lack the eye holes of a true mask intended to be worn by the living, and they are not curved to fit the human head.

The so-called "mouth masks" of Peru are frequently represented on Paracas-Necropolis embroideries and on the painted Nazca pottery of later date. A few examples of these, made of sheet gold, have been found (Figure 1). They are, in fact, pendants which clip to the septum of the nose and hang in front of the cheeks and chin. They do not completely disguise their wearers, but they do symbolize the whiskered face of the feline deity worshiped for centuries throughout Peru. The curiously conventionalized faces embroidered on textiles or painted on pottery in southern Peru are associated with anthropomorphic figures, often with wings, claws, serpent tongues and other non-human attributes. No corresponding mask types have been unearthed.

In addition to the Bliss mask, a few others are on record from the coast of Peru. Also made of clay, these are said to have come from the Santa Valley several hundred miles to the north (Schmidt, *Kunst und Kultur von Peru* [Berlin 1929] 133, 168). The style is Mochica and they resemble the well known portrait jars.

Outside of Peru, pottery masks have a wide but sporadic distribution. They are still worn in Guatemala



1. An example of a gold "mouth mask," in Early Nazca or Paracas-Necropolis style. Width of disk $4\frac{1}{2}$ inches. Museum of the American Indian, Heye Foundation, New York.



2. Effigy jar, Paracas-Cavernas style, from south coast of Peru. Painted black, red, green, buff and white. Length of face $1\frac{3}{8}$ inches. Private collection.



3. Another effigy jar from Peru, in Paracas-Cavernas style. Private collection. Photograph by Dr. Henry Wassen.



4. Left: Pottery mask. Tlatilco, Mexico. Diameter ca. 9 inches. After R. Piña Chan, *Las Culturas Preclásicas de la Cuenca de México* (Mexico, 1955).

Peruvian Mask cont.

and by the Lenca Indians of Yarumela in Honduras, where their manufacture is a hereditary vocation^{*} belonging to a single family. A few ancient examples are known from Guatemala, Ecuador, Colombia, Panama (see Figure 11) and elsewhere. The oldest functional pottery masks probably are those from the well known Tlatilco site in the Valley of Mexico, which currently are assigned to a Middle Preclassic stage: 900-500 B.C. (Piña Chan, *Las culturas preclásicas de la cuenca de México* [Mexico 1955] Plates 19, 20, 27). These must be centuries older than the Bliss mask.

THE MASK here discussed is 9¾ inches high and light in weight, as it is only about one eighth of an inch thick. Around the rim, at the back, there are seventeen small holes starting above the level of the mouth on each side. These must have served to hold the mask in place so that the wearer could see through the eye-slits, speak through the mouth and breathe through the nostrils. The mask exhibits considerable modeling. Bulges and curves of chin, cheeks and forehead are shown; the eyelids and lips are in low relief; the ears are projecting tabs and the nose is in sharp relief.

Three small human figures adorn the forehead. The one in the middle represents a woman wearing a shawl; the other two portray men with conical caps. The heads and hands are in the round, the shoulders and arms in low relief. The bodies have been completely eliminated, but short legs with out-turned feet are indicated by incised outlines. The facial features consist of projecting noses and incised eyes and mouth. This combination of modeling and incision is also seen on a contemporary group of rounded jars with small projecting heads linked to a cylindrical spout by a flattened, arched handle (Figure 2). Definite bodies are usually represented on these vessels; arms and legs are rendered as they are on the mask. The only indication of the figures' function is a knife in the hand of one of them. From the colors it seems that the triangular blade is meant to be of black obsidian and the short handle of wood.

Painting of the face, which is common on these effigy jars, also appears on the mask, which is embellished by two curving bands running from the temples to the bottom of the cheeks. Each band bears a series of interlocking step frets, outlined by incised lines and painted in buff and red. In the center of the forehead is a triangular black forelock. Above the upper lip is a pair of smaller black triangles which project upward beside the nostrils. We hesitate to identify these as mustaches

because we recall no other examples from the Paracas-Cavernas period. Facial hair, however, is sometimes shown on painted vessels of Nazca style found in the same area.

The Bliss mask, apart from its stylistic relationship, is of interest for the technique of manufacture, which is characteristic of its provenience and period. After modeling, while the clay was still plastic, the borders of all the features and the decorations were incised. The mask was then fired in a reducing atmosphere to make it uniformly black. This black surface is still exposed on the interior, in the various perforations and on a band around the back edge of the exterior. After firing, a lacquer-like paint, which in places ran over the previously incised outlines, was applied to the face. The colors include red, buff, brown and a shiny black distinguishable from the underlying dull black clay.

In southern Peru the use of a lacquer-like paint over a fired black clay antedates the development of fired colors. More than a thousand years later, however, a similar paint was employed to decorate wooden vessels, chiefly of the type known to the Inca as *keros* and *pacchas*. Our chemists have not yet been able to identify the vegetal base which carries the pigments. All we can say is that the oldest known painted pottery on the south coast of Peru apparently was decorated in fugitive colors, so evanescent that when they are excavated one scarcely dares to breathe on them. Then came the surprisingly well preserved lacquer-like pigments, to be superseded by the equally brilliant but permanently fired colors of the Nazca era.

What does this mask represent? There are several clues. In the first place, the complete absence of religious symbolism, so conspicuous in most art of the same period, as well as the attempt at realism in the modeling, suggests that the face is human rather than a portrayal of a deity. Secondly, although it is possible to see through the eyes, they are represented as closed, while the lips are slack and the mouth is open. It is the face of the dead rather than the living.

In New World art death is generally portrayed either by a skull or by trophy heads of several types. On the south coast of Peru, actual heads with desiccated skin have been found in graves, where they had been deposited as trophies. A hole had been drilled in the forehead of each trophy head, and through this was inserted a toggle attached to a cord in order to carry it. The lips often were sealed either by running long thorns through them or by sewing, as is seen on modern Jivaro trophy

Peruvian Mask cont.

heads. Effigy vessels depicting this type of trophy are characteristic of late Nazca ceramics, as are also rows of heads painted in profile with blood shown streaming from the severed necks. The features of the mask here discussed, however, exhibit no signs of violence.

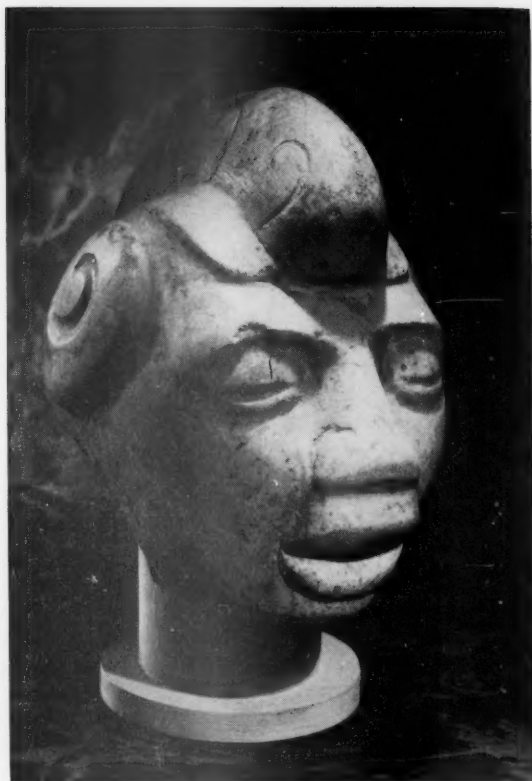
The closest likeness to the Bliss mask is found in a group of eight almost identical Paracas-Cavernas-style effigy jars representing human heads with closed eyes, open mouth with rectangular teeth, and a long pointed forelock (Figure 3). It is definitely known that four of these are forgeries, as a "confession" was published by their maker in a Lima newspaper. One or more of the others, however, must be genuine and the prototype for the whole group. It seems probable that the original came from Paracas itself because unofficial and unrecorded excavations are known to have taken place there and because some of the first mummy bundles excavated under official direction were stolen.

Outside Peru there are many parallels in concept if not in style. The most ancient, and one of the closest, parallels is a pottery mask (Figure 4) found with a burial at Tlatilco, Mexico, which dates from the Middle Preclassic stage (900-500 B.C.). Here death is represented in a dignified rather than sanguinary aspect, with eyes closed and mouth open to show the filed teeth and the tongue.

The same idea persisted for centuries in Mexico and reappeared in the style known as Classic Veracruz (Figure 5). Most such sculptured heads are marked by a peculiar treatment of the hair with a ridge running across the top. Sometimes the head is encased by a helmet representing an eagle. This does not obscure the closed eyes and open mouth, but it does suggest that a personage of importance is represented.

Several of the highly stylized types of Classic Veracruz sculpture (and probably the cult they symbolize) spread to the southeast as far as El Salvador, and examples have been found in some of the Classic Maya cities, but the type of head here discussed apparently was not adopted by the Maya until the Postclassic period. Both stone and pottery heads of this era from highland Guatemala reflect a similar concept of death. The pottery specimens are not individual pieces but decorations on the walls of large incense burners or Plumbate effigy jars. An example from El Salvador appears in Figure 6.

To return to Mexico, we find this type of head in several regions during the period of Aztec ascendancy just before the Spanish conquest. Probably the best known of these is the colossal head of Coyolxauhqui in



5. Marble head from central Veracruz, Mexico. Height 6 $\frac{3}{4}$ inches. Robert Woods Bliss Collection. Photo by Nickolas Muray.

the National Museum in Mexico, a smaller version of which is shown in Figure 7. Coyolxauhqui was the sister of the great Aztec war god Uitzilopochtli. Her fame was due to the fact that her brother decapitated her because she had plotted to kill their mother. Hence it is her head after death which is depicted in sculpture. Details and style of course change with time, but the basic idea behind the lifeless faces in Figures 4 and 7 seems to have persisted for two thousand years in Central Mexico.

ANOTHER PORTRAYAL of death in the art of Mexico is that of impersonators of the god Xipe Totec, clad in the flayed skins of the victims sacrificed in his honor. Examples of the type of head we are considering have often been published as Xipe himself (Figure 8); there is, however, no reason for confusion. The skin from the head of Xipe's victim was sewn over the head of the impersonator. The eyes are open enough to see through. The mouth is represented as open, with the closed lips of the living impersonator of the god encircled by the lips of the dead (Figure 9). Hair and ear ornaments



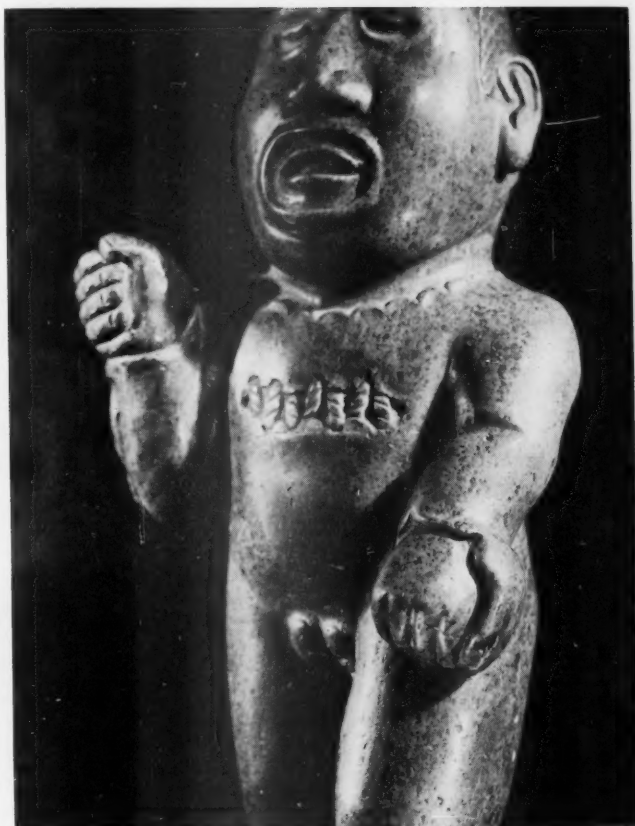
6. Small clay head from the vicinity of Suchitoto, El Salvador. Actual size. Private collection.



8. Cast gold head, Mixtec style, from Monte Alban, Mexico. Height ca. 3 in.



7. Jade carving representing the decapitated head of the Aztec goddess Coyolxauhqui. Height $4\frac{1}{2}$ inches. Peabody Museum, Harvard.



9. Statue of an impersonator of the Aztec god Xipe Totec, clad in the skin of a sacrificed victim. The heart was extracted through the slit in the chest. Robert Woods Bliss collection. Photograph by Nickolas Muray.



10. Cast gold head in Quimbaya style from Calarcá, Colombia. Height 6 inches. British Museum. After J. Jaramillo Arango, *A propósito de algunas piezas inéditas de orfebrería Chibcha* (Bogotá, 1948).



11. Right: Pottery mask, partly restored, from Venado Beach, Canal Zone, Panama. Height 10½ inches. Peabody Museum, Harvard.

Peruvian Mask cont.

sometimes are shown, but crown and headdress are absent. Xipe heads of this type are of Postclassic date in central Mexico. In Oaxaca the Xipe cult appears to be much more ancient, but the earliest heads, identified as representing the god himself, differ radically from those of later times which portray the god's impersonator. In some instances they exhibit curved lines running downward across the eyes and cheek from forehead to chin, recalling the Bliss mask.

The portrayal of death by closed eyes and open mouth apparently did not take hold in Nicaragua or Costa Rica, notwithstanding the great number of trophy heads turned out by the sculptors of the latter country. It reappears, however, in Panama and Colombia. Several of the massive gold Quimbaya heads clearly suggest death, and the example we illustrate (Figure 10) shows rectangular teeth in the open mouth like those on the Peruvian mask.

The Panamanian pottery mask in Figure 11 is of interest because it has holes drilled along the rim in the

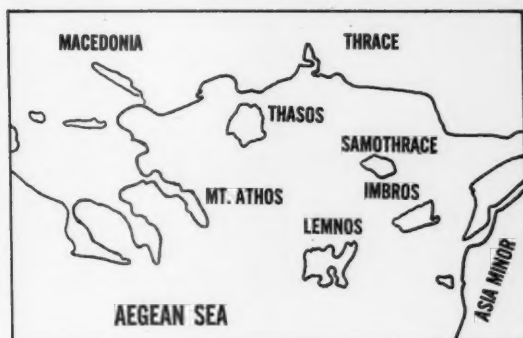
same fashion as the Peruvian mask. The eyes appear to be partly closed and the mouth is certainly open. This mask was found at Venado Beach, Canal Zone, by Mr. and Mrs. Neville A. Harte, who have kept field records for many years. The mask lay over the face of an adult male who had been buried in an extended position, lying on his back. Under the mask, on the skull, was a gold nose-clip of a type well known in the Province of Coclé. Aboriginal settlement of the Venado Beach area was not prolonged. A radiocarbon test has given a date of A.D. 230 \pm 60, which is only a century or two later than dates obtained for Paracas-Cavernas pottery in Peru.

The Peruvian mask we have discussed apparently represents an art tradition (but not a style) which first developed in Mesoamerica well before the Christian era. Many other ancient parallels between the two areas have been pointed out by various writers. To explain them is one of the major problems of New World archaeology. At present we can only speculate and hope that our rapidly growing knowledge will provide an answer.

THE SANCTUARY

OF ARTEMIS IN THASOS

By François Salviat and Nicole Weill



THE ANCIENT GREEK ISLAND OF THASOS was a "cultural crossroads" and the center of Ionian expansion in the Thracian Sea as early as the seventh century B.C. Here, in recent years, there has been intensive exploration by the French School at Athens, under the direction of Professor Georges Daux. The ancient theater, previously excavated, has been entirely cleared with the help of the Greek Service of Antiquities, represented by our friend, Ephor D. Lazaridis. Excavations in the sanctuary of Dionysos (which was identified in 1922) have provided a more precise knowledge of the boundaries of that sacred enclosure and have led to the discovery of a monument of the third century B.C., together with an interesting group of sculptures. A new and fruitful search has been undertaken on the crest of the acropolis, within the terrace which overlooks the present village and which in ancient times supported the great temple of Athena Poliouchos, the protecting deity of the town. Above all, the most notable success was the discovery in a series of trial diggings (begun in the autumn of 1957, extended in the summers of 1958 and 1959) of a rich collection of votive objects, abundant finds which throw a new, vivid light upon the art, religion and culture of this city.

It has long been known that there was a sanctuary on this site, at the foot of the slope climbing toward the acropolis, in a place now pleasantly shaded by orchards of olive and fig trees. In 1909, while clearing stones

from the field of a Turkish forest guard, workmen discovered some statues, and a search was conducted by Macridy-Bey on behalf of the Ottoman Imperial Museum. Seven life-size marble statues (now in Istanbul) were unearthed; originally they stood upon a series of bases lined up in front of a wall erected against the vertical rock. They were honorary effigies of the Roman period, representing distinguished Thasian women and dedicated by a husband or a son, or officially by the city. Inscriptions on the bases tell of the virtues of these ladies; one can read the signature of the Rhodian sculptor Philiskos, who is mentioned by Pliny. Two dedications were made to the goddess Artemis, who is characterized by the epithet "Polo." The sanctuary was then called the *temenos* of Artemis Polo, and Macridy proposed dating the establishment of the cult in the first century B.C. In 1911 A. J. Reinach, then a member of the French School at Athens, resumed excavation without new results. It was not until October 1957 that a lucky trial trench, opened in a field purchased by the French School near the area previously explored, showed the existence of a layer including objects which clearly bear witness to the ancient origin of the cult and to the wealth of the sacred precinct.

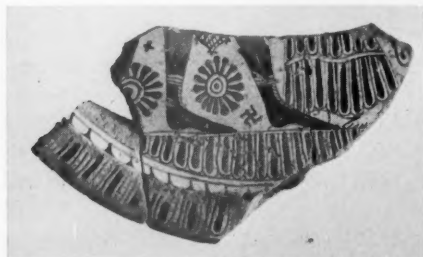
The sanctuary, which occupies an artificial terrace on sloping ground above the east corner of the *agora* and near the sacred passageway "of the *theoroi*," has been much destroyed. The crumbling of retaining walls and



2. Cycladic plate of Orientalizing style, showing Bellerophon riding the winged horse, Pegasus, and slaying the Chimaera with his spear. Middle of the seventh century B.C. Diameter 28.5 cm.



1. Fragmentary Thasian cup imitating Chiot "wild goat style." Shown are a cock, a roaring lion and a sphinx. Beginning of the sixth century B.C. Greatest dimension ca. 22 cm.



3. Fragments of a Thasian plate in the "Melian" tradition, showing a man and woman meeting. Seventh century B.C. Original diameter ca. 35 cm.



4. Fragments of a Thasian plate showing, at right, the leg of a fighting warrior wearing greaves; at left, an onlooker wearing a pleated chiton and himation. Seventh century B.C. Original diameter ca. 45 cm.



5. Part of an Attic red-figured plastic vase (London Group), in the shape of the head of a bearded man. Beginning of the fifth century B.C. Height of the fragment: 9 cm.

Sanctuary of Artemis cont.

erosion by water have ruined a large section; a great part of the inner fill of the terrace has spilled out into the hollow region farther down, and early levels have disappeared almost everywhere. In the present condition of the ruins even the general plan of the enclosed area is hard to decipher; one can distinguish with difficulty the limits of a rectangular platform. But the deep layers held a treasure of archaeological material.

The objects recovered, which indicate the women's devotion to a protecting goddess, are for the most part ex-votos offered to Artemis. The great mass of these is to be dated from the seventh century B.C. to the second quarter of the fifth century. In the fill of the Artemision were found, among sacrificial remains (ashes and animal bones), a number of lamps, jewelry, ivory pieces, objects of gold and bronze, a great many pottery vases and an even larger quantity of terracotta figurines. The fragments of pottery give a complete picture of the ceramics which were sold and used in Thasos during the Archaic period; they allow us to judge the proportion of im-

ported ware and to appreciate the home-made products.

These works, though of secondary importance, make clear to us, perhaps better than the few major documents, the variety and quality of the Archaic art which flourished in Thasos under "island" and "Ionian" inspiration during the prosperous times which followed the city's founding by colonists from Paros at the beginning of the seventh century.

In the course of the seventh century, the first generations on Thasos were familiar with the small perfume vases, the ovoid *aryballoi* with Subgeometric ornaments, which came from Corinth; the cities of Asia Minor and the islands of the Aegean Sea sent their jugs, cups and plates bearing polychrome designs on a white slip: geometric and floral decoration and friezes of moving animals in the so-called "wild goat style," which remind us of Oriental tapestries (Figure 1). The influence of the native Cycladic culture is always present: there are tall amphoras standing on conical feet—now unfortunately reduced to fragments; there are large votive



6. Thasian black-figured plate, showing strong Attic influence. Herakles is seen fighting with an Amazon; below, between sea-deities, is a hero riding the "Old Man of the Sea." End of sixth century B.C. Diameter 32 cm.

Sanctuary of Artemis cont.

plates, or *pinakes*, specially made to be hung on the walls of the sacred buildings, which were brought from the southern part of the archipelago. A Cycladic plate in the so-called "polychrome" style, inspired by fresco technique, must be counted, for elegance of drawing and dramatic composition, among the masterpieces of vase painting of the mid-seventh century; it shows the young hero Bellerophon riding the winged Pegasus and aiming his spear at the Lycian monster, the three-headed Chimaera (Figure 2). Homer says (*Iliad* vi. 180-183):

"She was of divine stock, not of men, in the fore part a lion, in the hinder a serpent, and in the midst a goat, breathing forth in terrible wise the might of blazing fire. And Bellerophon slew her, trusting in the signs of the gods."

Another fine plate, showing the opposed figures of two roaring lions, expresses the same decorative tendencies and comes from the same excellent workshop as a

votive *pinax*, thus far unique, found in the sanctuary of Hera at Delos. But there existed too, in this dawn of Greek art, a most remarkable school of Thasian potters, which has been revealed by recent excavation; some of the best pieces are made of the red clay of the island and decorated by local painters. The particular technique of the oldest pieces—polychrome with black varnish and accents of color on the creamy slip covering the clay (including a special shade of beige for the flesh tone), the style of drawing in outline without incisions, the filling ornaments (swastikas, spirals, lotus)—is very closely related to those of the island series known by the conventional name of "Melian." The Thasian fragments possess a charm equal to that of the great vases of the "Melos" style, and attest to the same predilection for animated scenes and ornamental richness, but with a neater, fresher and at the same time more naive and pleasing appearance (Figures 3, 4).

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7. *Left:* Terracotta figurine of Thasian manufacture: upper part of a seated woman, originally wearing a cylindrical polos. There are two holes for insertion of arms. Sixth century B.C. Height 15 cm.



8. *Right:* Terracotta seated goddess, wearing a tall polos, a veil and a form-fitting chiton. The stool has a cushion on it. The figurine is of Thasian manufacture. First half of the sixth century B.C. Height 17 cm.

In addition to the interest this pottery offers in itself, it also affords tangible evidence toward the clarification, if not the definitive solution, of the irritating problem of the origins of the well known island pottery composing the so-called "Melian" group. On this matter the opinions of scholars diverge: their manufacture has been attributed variously to the islands of Melos, Delos, Naxos or Siphnos. But since this Thasian workshop has been discovered, and since it is natural to assume that potters and painters who settled in Thasos during the course of the seventh century (that is, one or two generations after the first colonists) retained the designs and techniques of the craftsmen in their mother-city, Paros, the most plausible theory is that the "Melian" pottery must have been common in Paros about the middle of the seventh century, and was either manufactured exclusively by workshops on this island, or, more probably, produced in several neighboring centers

in the Cyclades. A direct consequence is that it now becomes necessary to question again the origin and chronology of the pottery of a different island group which is considered as "Parian" by a number of ceramists.

IN THE SIXTH CENTURY the proportion of imported ware seems to increase: again from Corinth perfume vials, plates and miniature bowls of pale yellow clay; then, after ca. 575 B.C., vases from Athens, especially light and elegant cups decorated with mythological or everyday scenes. The earliest examples of this ware are

FRANÇOIS SALVIAT, graduate of the École Normale Supérieure, has been a member of the French School at Athens since 1954 and has taken part in its excavations at Argos, Delphi, Delos, and especially at Thasos, from 1955 to 1960. NICOLE WEILL, Agrégé des Lettres, studied at the universities of Lyon and Paris, and has been a member of the French School for four years, during which she excavated on Thasos and also studied some of the finds from Argos.

Sanctuary of Artemis cont.

the plates decorated in the careless and fanciful manner of the "Polos" painter, and cups with overlap decoration, the so-called Siana cups of the Corinthianizing painter (known as the C painter). Attic vases were increasingly popular until the fifth century, when the red-figure technique took over and black-figure degenerated. Among the outstanding Attic pieces of this time is a fragmentary plastic vase in the shape of a bearded head (Figure 5).

Thasian manufacture still went on, but it suffered from competition. After having taken its inspiration in the seventh century from the Cyclades, then from East Greek areas, in the course of the sixth century it copied Attic models. Thasian products, simpler in shape, coarser in clay, glaze and colors, are often decorated with sloppy brush-strokes and hastily made incisions; some of the better works, however, show quality worthy of Athenian craftsmen (Figure 6). We know from literary sources that Thasos was one of the cities in Greece where great painting originated, with Aglaophon and his son Polygnotos, painter of famous frescoes in Athens and Delphi. The modest Thasian vases cannot pretend to suggest the talent of these artists; nevertheless, in their humble way, they afford evidence of the traditions of drawing which were alive in the island.

Numerous and varied terracotta figurines, mostly of local origin, have been found. A great many either represent worshipers or are tiny reproductions of cult statues. Such fragile objects, hastily made and lightly fired, are often found broken; some statuettes, however, have remained intact because of their small size and compact shape. All were once painted in bright colors, some traces of which still occasionally appear.

In the sixth century Thasian coroplasts, or modelers, imitated the well known figurines exported from Rhodian and Ionian workshops: seated women wrapped in long veils, wearing on the head a diadem or a tall cylindrical headdress (*polos*); they resemble the massive statues of the Branchidai at Miletus. Differing from the many conventional pieces of this type, we find an incomplete but rather large figurine of a seated woman (Figure 7). The face has been molded, then the mouth and hair carefully incised; this is a Thasian interpretation of an Ionian prototype.

From Ionian models, too, comes a nice group of slim, smiling maidens, wearing tight chitons and pleated himations, with long curls falling on the breast. In the right hand they hold a flower or a bird against their bosoms; with the left hand they raise their skirts slightly.



9. Archaic terracotta female mask. The woman wears a diadem and a veil pulled tight across the forehead. The mask was cast in a mold, but details are hand-finished. There are three suspension holes. Thasian. Late sixth century B.C. Height 11 cm.

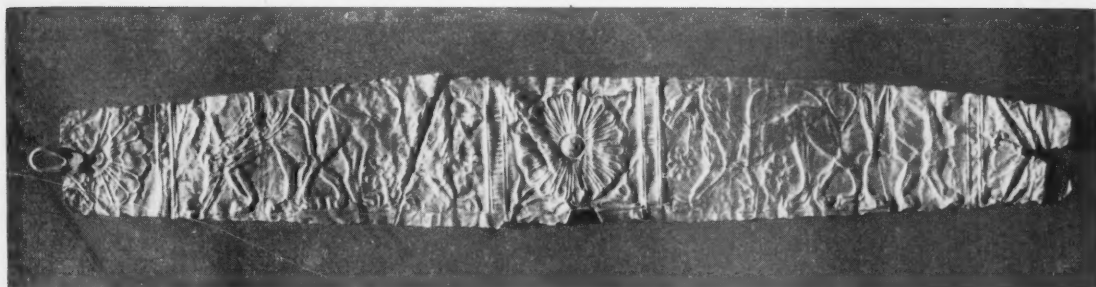
Their elegant appearance and lively expression remind us of the famous marble *kores* on the Acropolis in Athens.

Ionian influence is also represented by a group of long-haired standing male figurines, draped in chiton and himation. These are almost duplicates in miniature of statues found in Samos and Miletus. Actually, male figurines are not very numerous in our collection: there are some crouching or reclining satyrs, comic figures of dwarfs, and seated babies wearing high pointed caps.

But Thasian artists did not limit themselves to models borrowed from Ionia. A group of seated female statuettes, wearing tall *poloi* and dressed in tight chitons, is quite original (Figure 8). These seem to be a later derivation from a prototype which can be recognized in



11. Ivory head of a roaring lion. Note the realistic wrinkled muzzle, prominent fangs and extended tongue. Second half of the sixth century B.C. Height 5 cm.



10. Head-band of gold, with central rosette, lions and griffins in relief. Early sixth century B.C. Length 23 cm.

Spartan ivories and plastic works of Archaic Crete. In some details such as facial features they seem related to the so-called Parian sculptures.

From the middle of the sixth century on, Thasian workshops produced many female masks, pierced at the top for suspension. These stylized faces, with their regular features framed by a veil, have a serene expression brightened by their oblique eyes and the smile of their curved mouths. One might expect this group to be rather monotonous, yet several different series can be distinguished, each characterized chiefly by the arrangement of the hair and veil. Moreover, an evolution can be noticed in the style: toward the end of the sixth century a more severe character betrays increasing Attic influence. One remarkable mask remains apart (Figure

9). Molded but hand-finished, it shows an irregular, rather ugly face, which among all the idealized heads keeps a strong individuality.

Only a few imported pieces—ordinary specimens of Rhodian and Attic seated women—were noted; this shows the importance of the Thasian terracotta production. Even more important, these creations of a minor art reveal the tendencies which were also apparent in the island's sculpture. A colonial city, Thasos lived by maritime commerce, which kept it open to foreign influences. Its statues, carved in the coarse-grained local marble, often seem to reflect a general Ionian ideal rather than the specific attempts of an individual school. This great quantity of new material will help us to understand better what part Asia Minor as well as "island"

Sanctuary of Artemis cont.

and Attic traditions played in the development of Thasian plastic art.

BESIDES THE FRAGMENTS of vases and the terracotta figurines, other offerings of a more personal character were discovered: polished bronze mirrors, one with a carved stand; brooches, earrings and all kinds of jewelry, ivories with incrustations of enamel or colored glass paste. The richest find was a beautiful gold head-band decorated in relief with lions and fantastic griffins, which was once dedicated to the helpful goddess by a young mother or a bride (Figure 10). A masterpiece of glyptic art is a small lion head worked out of massive ivory (Figure 11); this precious object probably was an ornamental element from a larger piece, now lost. The motif of the roaring wild animal is common in Greek art; it has been treated here with the particular care befitting such valuable material.

Although most of the ex-votos belong to the Archaic period, we also find evidence of the popularity of the cult of Artemis later on. The prosperity of the Artemision lasted until Hellenistic and Roman times. We have already mentioned the statues found in 1909, now in the Istanbul Museum; in 1957 and 1958 many fragments of Hellenistic female figurines were discovered (Figure 12). They are akin to those which were placed in graves at Tanagra or Myrina and which are so much appreciated for their delicacy and elegance. In contrast with the Archaic works, they are the products of a mature art and express in miniature that miracle of taste which was the achievement of the Greek Classical spirit.

Apart from their artistic value, all these new finds show not only the widespread devotion to Artemis in Thasos but also the early origin of the cult and its true

character. Ever since the city's first days, Thasian women visited the sanctuary, bearing gifts to Artemis. This goddess whose image is represented by the Archaic terracotta figurines is none other than the ancient female deity of the Aegean and of Ionia, brought by pioneers from Paros and established with them in this northern island. Thracian parentage has sometimes been attributed to the Thasian Artemis; the attributive of "Polo," which is mentioned in two dedications, evidently means "young horse." Some historians have supposed her to be one of those mounted deities said to haunt Pangaeum and Orbelus, mountains of the neighboring mainland, who were worshiped by the local tribes. But the hypothesis of a Thracian religious syncretism as early as the seventh century now seems to lack a sound basis. One can understand that the native people, primitive and rather wild, who were conquered by force, exercised very little influence on the thinking and feeling of these southerners, sons of a superior civilization, who came to impose their own law. On the boundaries of the barbarian world, Thasos remained a pure Hellenic settlement; there the culture and religion of the Cyclades continued to reign. Artemis Polo was the "horse-taming" goddess, the "Mistress of the Wild Beasts" from prehellenic cults. On the other hand, an inscription on marble found in 1958 mentions a consecration in the first century B.C. to Artemis Eileithyia. The name "Eileithyia" belongs to a very old Cretan deity, known from the Homeric epic poems and from the recently deciphered Knossos tablets (about 1500 B.C.). Protecting motherhood and childbirth, she was one of the fertility goddesses, and most naturally was assimilated with Artemis herself. A queen ruling over life and growth, according to the early Greek tradition, such was the divinity whose fame is declared by all these offerings, humble or rich, which have come to light in the place consecrated for so many centuries by human piety.



12. Terracotta heads of female figurines. They date in the Hellenistic period. Shown in actual size.

ISTHμία: CAMPAIGN OF 1959

By Oscar Broneer

Director, University of Chicago Expedition to Isthmia

THE PRECINCT AND TEMPLE OF POSEIDON at Isthmia were first located by Professor Broneer in 1952, after having eluded the search of archaeologists for many years. Since 1954 the University of Chicago expedition has been working at the site, with spectacular results. For earlier reports see *ARCHAEOLOGY* 8 (1955) 56-62; 9 (1956) 134-137, 268-272.

AS THE EXCAVATION AT THE ISTHμία by the University of Chicago expedition progresses and each new sector is opened up, the history of the Sanctuary, of its games and cult practices, is gradually being rewritten. But here, as elsewhere, the excavations uncover much that cannot be explained, and the mysteries multiply.

The fall campaign of 1959 has cleared new ground and added fresh puzzles to the picture. Southwest of the Sanctuary we completed our excavation of a large circular pit—sixteen feet in diameter, sixty-five feet deep—which had been dug at an early date, and then filled up about 475 B.C. A prodigious amount of pottery, Corinthian with some admixture of Attic, came from the last fifteen feet of fill at the bottom of the shaft. With the pottery other things had been discarded: stone jumping weights, pieces of Archaic sculpture, helmets and many other objects of metal. Some of them are now almost unrecognizable; others are reasonably well preserved. Most numerous and most interesting is a series of *perirrhanteria*, tall water basins used as cult vessels for ceremonial cleansing of hands. They are of many varieties, almost all of terracotta, though fragments of marble basins have appeared. One particularly decorative specimen is well enough preserved so that the fragments could be assembled and the whole basin restored. Upon a square base with elaborate moldings stands a stately column with horizontal bands and vertical "windows," and this, in turn, supports the basin. The whole object was made and fired in a single piece. The rim of another basin is decorated with chariot scenes, incised with very fine lines in the buff Corinthian clay.

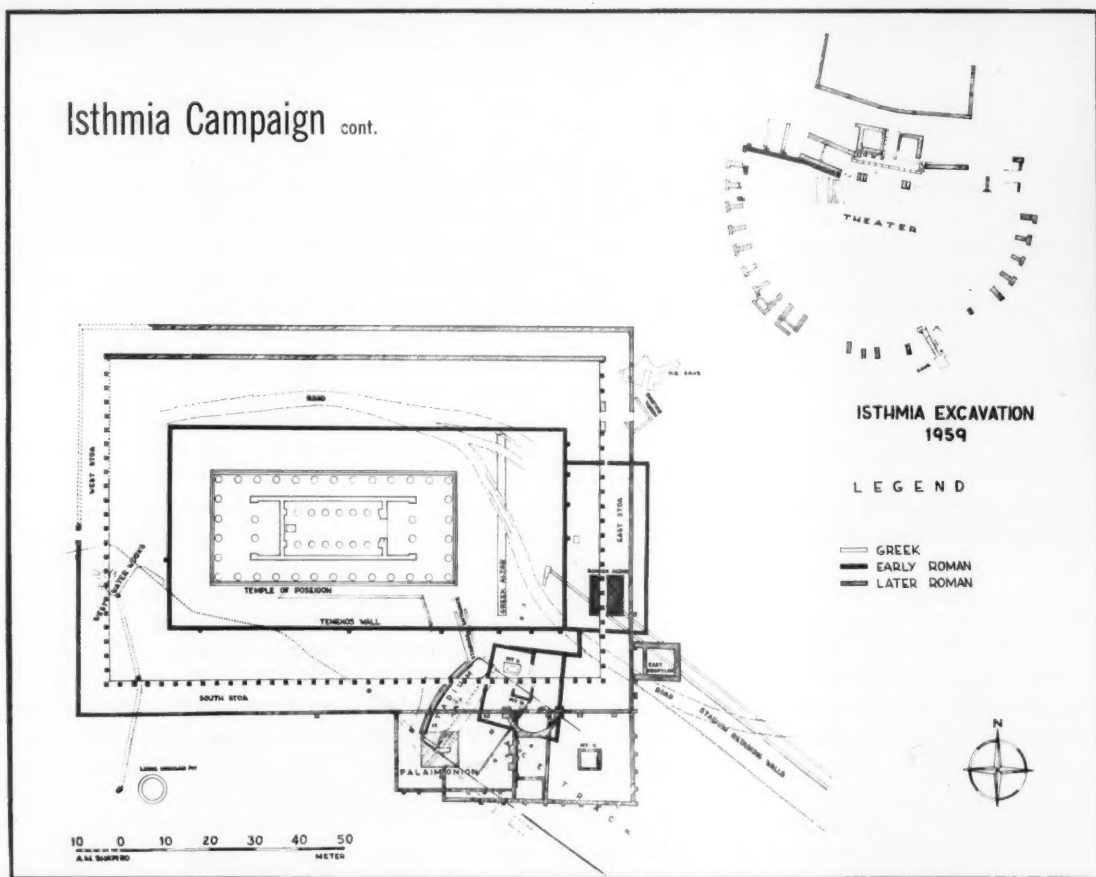
What purpose did the immense pit serve? The question will doubtless remain unanswered; all we can state is that the work was left unfinished. The debris thrown into the shaft raises questions of its own. Much of it

came from the Archaic Temple, and we know from our excavations in the Sanctuary that this building was destroyed by fire about 475 B.C. The charred remains of that fire we have encountered elsewhere, in the deep gully north of the Sanctuary and on the less steep slope to the east. We recognize this debris wherever found from the painfully obvious evidence of destructive conflagration. The circular pit, we know from the pottery near the bottom, was filled up about the time of the fire, but none of its contents shows signs of burning. Was the pit abandoned and filled only a year or two before the fire broke out, or did some of the objects within the temple escape direct contact with the flames? Again the questions cannot be answered.

From the pit we move diagonally across the Sanctuary to the northeast corner. Here we cleaned a considerable area in the fall campaign. Previously we had restored the precinct wall of the earliest Roman era as a complete rectangle; now we know that there was a jog at the corner, leaving a comparatively small area outside the Sacred Enclosure. Here we find a \square -shaped structure with only three walls, one end being open. Its orientation is altogether different from that of the Temple and the Precinct of Poseidon. With such an obvious invitation to pilferers, it cannot have been a treasury. It may have been a small enclosure surrounding an altar, but nothing is preserved of such a structure. Not far from this wall we found the descent to a cave in which the work of man had clearly tried to improve on nature's formation. There is a rock-cut stairway from the east, a short passage terminating in a niche with a rock-cut throne, and five, perhaps six, couches with stone "cushions" at one end lining the passageway. These are the kind of couches found in dining rooms commonly attached to cult places of Asklepios. But we would hesitate to label the cave as a public or private dining room. The couches were doubtless designed to serve the initiates in some cult for which incubation was part of the prescribed ritual. We expected to find dedications that would lessen the mystery, but later occupants had anticipated our coming. The cave was filled almost to the top with debris from the first century of our era. The late intruders, who had used the cave for their own purposes, removed all traces of earlier occupancy except the rock-cut furniture. A little of the cave remains to be cleared, near the east entrance; here we may learn something more about its use in pre-Roman times.

From the northeast corner of the Sacred Precinct the ground slopes rapidly toward the north and east. A short distance away, not more than one hundred feet, are the ruins of a theater, the perimeter of which was clearly visible before excavation began. It is one of the few

Isthmia Campaign cont.



buildings at Isthmia which Pausanias, the famous traveler of the second century A.D., considered important enough to list—but this was before Justinian's engineers had carried away its seats and walls down to the very foundations. So unpromising did it seem, after an exploratory trench had been dug in 1954, that we considered the possibility of filling up the trench and abandoning the project. Then, in the spring of 1958, we made another attempt, this time in the west *parodos*, or entranceway. Here the despoilers had left the walls standing to a height of more than three feet above the foundations. In a small pocket close to the wall we discovered a very fine marble head of an athlete wearing the Isthmian crown of pine branches. The possibility of finding sculpture of this kind spurred us on to resume work in the fall of 1959.

Our first objective was to expose the scene building and the proscenium and thereby establish the type and approximate date of the building. By good fortune the entire sill of the proscenium has been left in place, and

on it we can trace the marks of piers and small rectangular cuttings by means of which painted panels were held in place in the intercolumniations. The floor of the scene building was considerably higher than the orchestra; the latter was connected with the rear of the building by a passage which in Roman times seems to have been covered with a vault. This passage cuts the scene building into two rectangular blocks. Little else remains from the building of pre-Roman date; but, digging below the floor of the later orchestra, close to the proscenium sill, we discovered a beautiful silver coin of Alexander lying on the level of what we believe to be the orchestra floor of the Hellenistic period. One of the actors or a dancer may have lost the coin during a performance! The theater seats have all been removed, wherever the auditorium has been excavated, but one complete seat block was found in the west *parodos*. It comes from the end of the aisle, and two steps of the stairway are cut out of the same block.

We can restore the general plan of the Greek Theater,



The circular pit from above, during excavation. The white areas are reflections in pools of water.

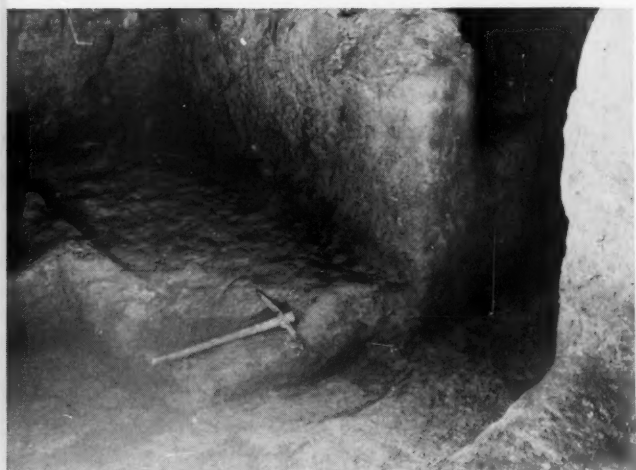


Above: Rim of perirrhanterion, with chariot scenes engraved in the clay. Left: Perirrhanterion in process of mending.





The theater. The proscenium sill is seen in its entirety, from the east. On the right are walls of the scene building.



The cave at the northeast corner of the Precinct. Two of the couches and the throne (upper right) are visible.



Stamped tiles proclaiming Poseidon's ownership of the theater.

Isthmia Campaign cont.

but details of its construction escape us. Before the first Roman construction the building seems to have been devastated, for in some places the Greek walls have been removed where Roman foundations are now preserved. Who would have been responsible for this vandalism? The answer is to be sought in the history of Corinth. Although we are informed by Pausanias that the Isthmian games continued to be held, under Sikyonian management, during the hundred years that Corinth lay in ruins (146 to 44 B.C.), with the implication that the Sanctuary escaped the fate of the city, the excavations tell another story. Both in the Precinct of Poseidon and here in the Theater the archaeological evidence points to large-scale destruction before the establishment of the Roman colony. Not all the buildings were demolished—the Temple of Poseidon was left standing, but in what condition the scanty ruins do not reveal. When the administration had reverted to the Corinthians and they had set their hands to rebuilding the Isthmia as well as Corinth, the Theater was one of the first buildings to claim their attention. They rebuilt the scene building and covered the central passage with a vault, and they reconstructed the *parodoi* and partly vaulted them over. But the Theater was never turned into a Roman playhouse; it retained its Greek form to the very end. In the orchestra were erected two large pedestals, the massive foundations of which still remain. They can hardly have been altars since the foundations are far too heavy



Vases stacked in storage pit in front of theater cave.

for such a purpose. We can only conclude that two colossal statues stood in the orchestra and obstructed the view for a large number of spectators.

In a final period of reconstruction it was decided to enlarge the auditorium. At the outer rim was constructed a series of T-shaped foundations which still form a prominent feature of the building. This ambitious project seems never to have been completed. The foundations should have been designed to carry walls for the support of the upper tiers of seats. But although the foundations are well preserved, not a fragment of the vaulting has been found. Perhaps we are justified in associating this abortive attempt to enlarge the Theater with the much-publicized visit of the Emperor Nero in A.D. 67. So eager was he to be crowned victor in the Isthmian Games that by imperial decree he changed the date of the games from the spring to the autumn. We may conjecture that the two colossal statues in the orchestra were set up on that occasion, one perhaps representing Dionysos, the other his great rival, the emperor himself.

Although Dionysos as Patron of the Drama may have held the right of permanent lease in the Isthmian Theater, Poseidon retained ownership of the property. His possession of the building is recorded on a large number of roof tiles, many of which are stamped with Poseidon's name in the genitive ("Poseidon's property"), while others display the symbols (dolphin and trident) of the Lord of the Sea.

We cannot date the first construction closely, but it is unlikely that the Theater existed on the same site before

400 B.C. This we may conclude from the presence of a cave in the area later used for the auditorium. Though only partly excavated, it has added some elements to the mystery of the place. One deep cutting in front of it, which at first we took to be a grave, had been filled with earth, then covered with several layers of marble slabs and roof tiles of marble and terracotta, and on the top of these had been deposited three plain vases. Nothing to indicate burial was found at the bottom of the shaft. No less puzzling are the contents of a neatly stuccoed storage pit, also found in front of the cave. Seventeen household vessels lay stacked in the pit, all turned upside down, the smaller ones at the bottom, the larger near the top. Several of the cooking pots show unmistakable signs of having been used. The pottery apparently dates from the early fourth century B.C. The cave does not seem to have functioned in connection with the Theater, the foundations of which extend over the entrance to the underground chambers. One part of the cave which we have excavated had been opened and re-used in Roman times; a second chamber remains to be cleared.

We also explored some other, more remote, areas with unspectacular results. Foundations of ancient buildings appear above the surface in the gardens and plowed fields to the west, north, east and southeast of the Sanctuary, but not all of these look sufficiently promising to justify purchase of the property for excavation. In the spring campaign of 1960 we intend to excavate what still remains undug in the Theater and in the Precinct of Poseidon and to complete our exploration of the two underground chambers.

By

Gordon R. Willey

A. Ledyard Smith

W. R. Bullard, Jr.

and

John A. Graham



MAP OF MAYA COUNTRY SHOWING LOCATION OF ALTAR DE SACRIFICIOS
(DRAWN BY J. C. GIFFORD.)

ALTAR DE SACRIFICIOS,

THE JUNGLE-COVERED DEPARTMENT OF PETEN, in northern Guatemala, is the heartland of ancient Maya civilization. The ruin of Altar de Sacrificios lies at the southwestern corner of the Peten lowlands, approximately seventy-five miles southwest, on an airline, from such famous prehistoric Maya centers as Tikal and Uaxactun. Altar is situated at the confluence of two major rivers—the Pasión, which flows across the southern Peten from the east, and the Salinas, which descends from the Guatemalan highlands. A few miles downstream from the Pasión-Salinas confluence the Lacantun River also merges into the drainage to make up the greatest of the Maya rivers, the Usumacinta, which then runs northwestward to the Gulf of Mexico. In this location, at a junction of major waterways and midway between highlands to the south and lowland plains to the

north, Altar was well placed as a crossroads point for the movement of peoples, influences and trade within the old Maya cultural realm.

Today the region around Altar is thinly populated. Only a few homesteads dot the river banks between the site and the nearest town, Sayaxché, twenty-five miles to the east, on the Río Pasión. In this respect there has been little change since the ruins were discovered in 1895 by Teobert Maler, who also found the country nearly deserted. Maler visited Altar de Sacrificios again, in 1904, and named the site after one of the large circular stone altars which he found there. His illustrated account of 1908 is the first published mention of the site. After Maler's time Altar was visited and studied by many others, but only Morley described the mounds and monuments in print (1938). In 1958 Willey and A. L.



North Plaza, Group A. Altar 4 stands in the left foreground, Stela 17 in the right foreground, and Stela 16 in the center.

A PREHISTORIC MAYA CROSSROADS

Smith made a reconnaissance trip into Altar and conducted a brief test excavation. The ceramics obtained from these tests indicated that the site had been occupied from the Late Formative period (ca. 500 B.C.) through the Late Classic (A.D. 600-900). There were also some hints of an Early Postclassic (ca. A.D. 900-1100) period occupation. Moreover, in addition to the long span of occupation, Altar ceramics also revealed widespread trade contacts within the Maya territory. As a result of these preliminary excavations the Peabody Museum group decided to concentrate further excavation and study on what appears to be an important Maya crossroads. In following up this decision we have been aided and encouraged by our Guatemalan friends and colleagues, Sr. Carlos Samayoa Chinchilla, Director of the National Institute of Anthropology and History, and

Sr. Antonio Tejeda, Director of the National Museum of Guatemala.

A temporary camp was set up at Altar in February of 1959. Supplies and equipment were flown from Guatemala City to Sayaxché and then transported by canoe and outboard motor down-river to the ruins. By the middle of May, at the dry season's end, a permanent camp was completed, including buildings for both staff and labor force. The central area of the site had also been cleared of brush, and Bermuda grass and corn sown as a means of keeping down the weeds and as a forethought for provender for the coming year. A twenty-man crew spent most of its time building and clearing; however, some exploratory excavations were made, and over half of the main concentration of ruins was surveyed by means of transit and tape.



North Plaza, Group A, after clearing. For scale note man in center at foot of giant ceiba tree.

Altar cont.

As a result of this effort a much more accurate description of Altar de Sacrificios is now available than that given in the maps of Maler and Morley. The ceremonial center occupies a strip of high land 300 to 500 meters wide, bordered on the north and east by the Río Pasión and on the south by a small intermittent creek known as Arroyo San Felix. The terrain of the site area is level to gently undulating, and consists in the main of a series of swales separated by low winding ridges on which the built mounds are situated. Thick groves of bamboo cover the swales, while the higher ground supports a high forest of cahune palms, and ceiba and ramon trees. Parts of the ruins have been in *milpa* cultivation at times in the past, and these areas have grown back to bamboo and medium-sized second growth. The mounds are situated at a minimum elevation of about 9.50 meters above the lowest level of the river as recorded during the 1959 season. The Río Pasión is subject, however, to considerable fluctuations in level, and there is evidence that the ruins have been flooded in the recent past.

The ruins consist of platform mounds and terraces of varying size and complexity. They are built up of earth and were originally faced with retaining walls. The stone used in the masonry is usually a soft red sandstone, although some limestone blocks were employed. Most of the larger mounds have small platforms on their summits which were presumably foundations for buildings made of perishable material; there is no evidence of substantial masonry buildings on any of the mounds. Although Altar de Sacrificios is small compared to many

ceremonial ruins in the lowlands of the Maya area, it contains an especially large number of stelae and altars, a high proportion of which are sculptured. An interesting and apparently peculiar feature of the site is that many of these monuments were originally erected on the summits of the mounds. Others are situated in the plazas, as is usual elsewhere.

THE STRUCTURES of the ceremonial center stretch over an area of approximately twenty hectares. They are organized into three architecturally independent groups which we entitled A, B and C. Group A, the same as Morley's Group I (*Inscriptions of the Peten*, Vol. 2, page 312), is by far the largest and contains two more or less rectangular plazas separated by a ball-court. The north plaza of Group A was clearly the most important ceremonial area, since it is bordered by the largest mounds and contains the majority of the stelae. The east and west sides of this plaza are formed by large platform mounds about ten meters high. The mound on the west side is over one hundred meters in length and has smaller platform structures on its comparatively narrow summit. Near one end is located the sculptured altar from which the site receives its name. The plaza's north side is bordered by a large complex of mounds and small courts. Approximately one-half of this building complex has been destroyed by the erosion of the south bank of the Río Pasión. Associated with the north plaza of Group A are thirteen stelae, twelve of which are sculptured, and eleven altars, two of which are sculptured. The edges of the south plaza of Group A are



River and jungle along the Río Pasión. A view from Altar de Sacrificios.



The hieroglyphic text which appears on the back of the newly discovered Stela 18, bearing Initial Series 9.9.5.0.0. Measurements of stela: 2.60 m. x 0.70 m. x 0.34 m.

crowded with a variety of small mounds. Associated with this plaza are three sculptured stelae and five plain altars.

Groups B and C are located a short distance west of Group A, from which they are separated by a dip in the terrain. Both groups are considerably smaller in extent and in number of buildings. The outstanding feature of Group B (Morley's Group II) is a steep-sided pyramidal mound twelve meters high with a broad stairway descending to a small plaza on its north side. Although mounds of comparable shape are ordinary features of other Classic Maya ruins, this is the only example at Altar de Sacrificios. Group B also contains a mound complex composed of raised courts and platforms, as well as smaller independent buildings. There are five sculptured stelae, one of which is only a fragment, and three altars, one sculptured.

Group C (Morley's Group III), the smallest of the three groups, includes what is apparently a ball-court and, in addition, two medium-sized buildings separated

by a small terraced plaza. Two small plain altars are associated with this group. The layout of structures in both Groups B and C is strongly influenced by the terrain, which consists of narrow ridges separating low, boggy swales.

Although the area mapped during the 1959 season includes little more than the three groups containing the ceremonial buildings, explorations were conducted in order to determine the limits of the built-up area. No mounds were found south of Arroyo San Felix, which marks the southern edge of the site. Some strips of high land occur in this direction, but the terrain is composed principally of low swampy areas and old river channels. To the west of Group B a rather dense scattering of small mounds extends for 300 to 400 meters. Most or all of these were probably house structures. Farther west, toward the confluence of the Pasión and Salinas Rivers, only occasional isolated mounds are found. The diminution in number of mounds in this direction may be due



Stela 1, showing the newly discovered Initial Series on the back, which reads 9.11.10.0.0.

Altar cont.

to a slight drop in the elevation of the ground above the river level. On the opposite side of the Río Pasión, numerous mounds were seen in a clearing around the abandoned settlement of Trapiche, which is on high ground about half way between Altar de Sacrificios and the mouth of the Pasión. Mounds were also noted on high ground elsewhere along the course of the river. The true situation as regards the distribution of dwellings along the Río Pasión and their relation to the ceremonial center can only be ascertained by systematic exploration over large stretches of terrain. The principal difficulties in such exploration are the lack of sizable clearings and the fact that most of the river is bordered by areas of swamp.

The only significant architectural excavations of the 1959 season were those in the ball-court associated with Group A. This court is of the Peten Classic, or open-ended, type. Its two ranges and its paved playing alley (8.65 m. wide) are about thirty meters in length. The benches (38 cm. high and 3.50 m. wide) have a slight batter, as do the playing walls, which rise to a height of about one meter above the tops of the benches. The benches slope slightly toward the alley. Set flush with the floor in the center of the top of the west bench is a small stone drum, probably a marker. Wall faces are of cut stones laid against a dirt fill. The whole court at one time was covered with a plaster surface.

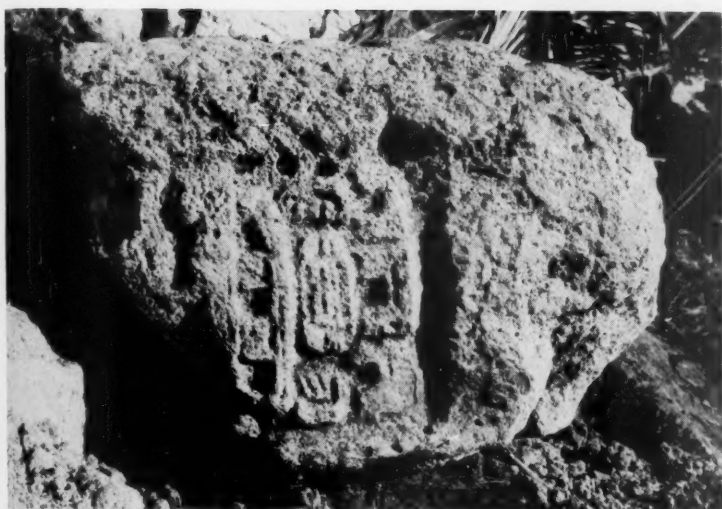
DERIVING FROM OUR WORK in 1959 is a series of new

discoveries relating to the monuments and hieroglyphic inscriptions of Altar de Sacrificios. In Morley's 1938 summary he described fourteen stelae, and he added three more (Nos. 15-17) to this list in the course of another visit in 1944. In 1959 we found four new stelae, increasing the total count to twenty-one.

By way of explanation it should be stated that the Maya of the first millennium A.D. had developed a system of hieroglyphic writing as well as several complex methods of recording time. The hieroglyphics, consisting of human, animal and monstrous faces and other signs, are only partially translated. Perhaps one-fourth of all of those recorded are understood. Most of those which have been translated bear upon calendrics. Of the various Maya calendars the best known is the so-called Initial Series or "Long Count." This is a system of counting days from a mythical starting point at about 3000 B.C. The longest unit of computation in the system is the Baktun, or cycle, which is 144,000 days. The next unit in descending order, the Katun, has 7200 days. The Tun is 360 days, the Vinal 20 days, and the Kin a single day. Thus the date of 9.9.5.0.0, mentioned below, is the 9th Baktun, 9th Katun, 5th Tun ending. The 9 Ahau 18 Uo designation refers to the particular day name and number in a corollary system of 260-day cycles. Lunar Series refers to dates or positions in a separate lunar calendar. Other hieroglyphs and numbers on stelae probably pertain to specific historical incidents and persons, but these have not been translated.



Stela 15 with newly discovered Initial Series, probably reading 9.16.18.5.1. Note Baktun, Katun and Tun glyphs (top at right).



Stela 15 (top at right), showing introducing glyph of the Initial Series date of the monument. Initial Series dates are generally introduced by such hieroglyphs.

By far the most significant of the newly discovered stelae is Stela 18, which originally bore an extensive hieroglyphic text of over 114 glyph blocks. Both front and back are carved. The front bears glyphs as well as a human figure, while the back was inscribed with glyphs only. Unfortunately, about half of the text has been so badly eroded that the glyphs are entirely illegible. Preserved on the back, however, is an Initial Series which unquestionably records the dedication date of the monument. This has been read by John Graham as 9.9.5.0.0 9 Ahau 18 Uo (A.D. 618)* in Maya notation. This

* This and all other dates rendered in the 11.16.0.0.0 correlation. Renderings in the 12.9.0.0.0 correlation would be approximately 260 years earlier.

date is followed by a Supplementary or Lunar Series which probably reads G9, F, 11D, 2C, X3 and 9A. The interest in this Lunar Series is considerably augmented by the fact that heretofore no Lunar Series has been reported for the Long Count position recorded in the preceding Initial Series.

In addition to the Initial and Lunar Series found upon Stela 18, two new Initial Series were discovered on previously known monuments. The excavation and turning of Stela 1 led to the discovery of a short hieroglyphic text on the stela's back and two sides. Although the text is poorly preserved and in fragmentary condition, an Initial Series is clearly recorded on the back side. This Initial Series, also read by Graham, is 9.11.10.0.0 11



Stela 4, the best preserved on the site. The text, including Initial and Lunar Series, has period ending date 9.10.10.0.0.

Altar cont.

Ahau 18 Chen. Similarly, preliminary study of Stela 15 resulted in the discovery of a very poorly preserved and badly fragmented Initial Series given the probable reading by Graham of 9.16.18.5.1 5 Imix 4 Xul. There is good evidence that a Secondary Series of 1.12.19 leads to the Calendar Round 13 Ahau 18 Cumku, marking the monument's dedication at 9.17.0.0.0 13 Ahau 18 Cumku (A.D. 771). Particularly interesting is the unusual orientation of the glyphs, which is toward the right rather than the left.

Four carved altars are known from Altar de Sacrificios, as well as numerous plain ones. The most interesting one discovered this season was an enormous circular limestone altar, apparently uncarved, which was unearthed in the south plaza of Group A. This huge monument has an average diameter of 2.60 m. with an average thickness of approximately 40 cm.

The time span represented by the Altar monuments as presently known covers the period from 9.2.0.0.0 (A.D.

475) (Stelae 10 and 11) until probably about the end of Katun 16 (A.D. 771). Examination of the monuments within this span reveals an interesting chronological differentiation in terms of both size and material employed. The heights of the stelae vary from approximately two meters to over 4.50 meters (Stela 7). In general, the earlier stelae are smaller while the later ones are larger. This variation is more clearly brought out, however, in a consideration of the material employed. All of the Altar de Sacrificios monuments are either of red sandstone, which constitutes the bedrock of the vicinity, or limestone, which may be an imported material. Of the surely or probably dated limestone stelae, all fall after 9.10.0.0.0, while no sandstone stela dates later than 9.10.0.0.0. There is, therefore, an apparently abrupt shift from the use of local sandstone to the use of a possibly imported limestone at or just after 9.10.0.0.0. This is presumably true of the altars as well; when associated with stelae they are always of the same



A group of pottery figurine whistles which are typical of the Late Classic period. With the exception of the center whistle in the lower row, which was found on Salinas, all the specimens are from Altar de Sacrificios.

material as the stelae. The reason for this shift in constructional material is unknown. Similarly, the relation between the variations in monument size and constructional material is not self-evident and admits more than one plausible interpretation.

A large number of the monuments were tested this season for caches. One cache, found under Stela 16, consisted of some forty-nine obsidian fragments, including broken cores, blades and miscellaneous chips. The season's most spectacular cache was that discovered beneath Altar 4. This consisted of thirteen eccentric flints of trident, laurel-leaf and other forms. Several of these flints are of outstanding workmanship.

Although no excavations were undertaken in 1959 with the primary purpose of obtaining ceramic samples, several pottery collections resulted from excavation of the architecture. Among the decorated sherds was a surprisingly high percentage of carved Fine Orange pieces, apparently of the Y, or Late Classic, variety.

Carved decoration on these sherds consists of glyph bands, reclining human figures and scrolls. A number of fine hollow pottery figurine whistles in both animal and human forms were also found. This ceramic material, together with the sherds from the 1958 test cuts and with large quantities found along the river bank beneath the wash-out of the Group A structures, shows clearly that important refuse and tomb pottery can be found with more digging. These prospects, and the anticipation of new monument and glyphic material, lend a feeling of excitement to the next season's work.

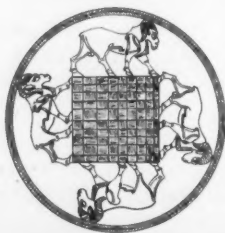
GORDON R. WILLEY is Bowditch Professor of Mexican and Central American Archaeology at Harvard University; A. Ledyard Smith is Assistant Curator of Middle American Archaeology in Harvard's Peabody Museum; and J. A. Graham and W. R. Bullard, Jr. are Harvard graduate students of anthropology. The Altar de Sacrificios excavations, which began in 1959, are projected over a five-year period. They are under the auspices of the Peabody Museum, Harvard, and have been financed by the National Science Foundation.



HASANLU AND EARLY IRAN

By Robert H. Dyson, Jr.

Among the missing pieces in the jigsaw-puzzle picture of ancient Near Eastern history has been that of the early peoples and cultures of the northwestern part of modern Iran. What knowledge we had was mainly indirect, primarily from the late Assyrian and Urartian annals, which of course reflect only the situation during the period of their respective rulers' campaigns into the territory. The Hasanlu Project of the Archaeological Service of Iran and the University Museum of Philadelphia (joined in 1959 by the Metropolitan Museum of Art) has undertaken three campaigns of excavation following a careful preliminary survey, and is doing much to fill in the gap not only for this period but for earlier phases as well. In this article by the director of the Hasanlu Project some of the results of the excavations at Hasanlu and elsewhere in the Solduz Valley are fitted into the framework of history.



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THE COUNTRY OF MANNAI, or Mana, occupied the valleys and mountains of western Iran from the southern shore of Lake Urmia in Azerbaijan south into the mountains of Kurdistan. In the early first millennium B.C. the Mannaeen kingdom was bordered on the north and northwest by the mighty state of Urartu, situated in the Lake Van area of eastern Turkey. To the west Mannai was flanked by Assyria, in northern Iraq, just across the Zagros mountains. To the southeast the Medes gradually occupied the plains around Hamadan and emerged finally in the seventh century as the third major power in this area.

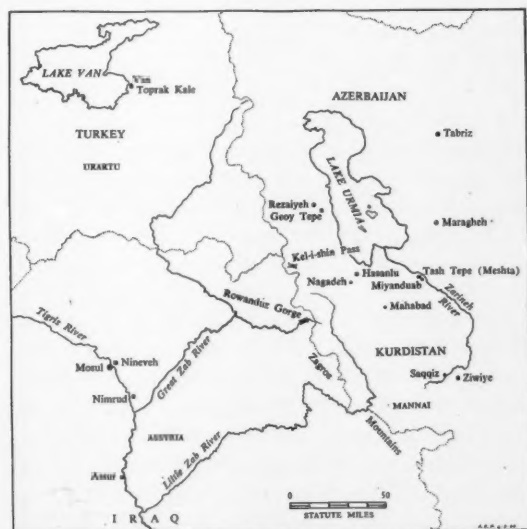
The Mannaeans appear for the first time on the stage of history in the records of Shalmaneser III (859-824 B.C.), during the initial period of late Assyrian expansion toward the east. At the end of the century, with Urartian expansion under King Menuš (810-781 B.C.), the country of Mana is first mentioned in the annals of the kingdom of Urartu.

During the eighth century individuals with Indo-European names begin to appear in Mannai, often connected with political intrigues involving foreign alliances. Early in the seventh century Scythians, and possibly Cimmerians, penetrated the area from the Caucasus and were politically dominant for a quarter of a century. Their influence is seen in the art of the gold hoard found at Ziwiye in 1947 and in some so-called Luristan bronze pieces. At the end of the century the Mannaeans were absorbed by the expanding Median kingdom. Mannaeans are last mentioned in Urartu by Rusaš II (685-645 B.C.) and in Assyria by Esarhaddon (681-668 B.C.). Minor references occur in Neo-Babylonian literature, but in general the ascendancy of the Medes ended the Mannaeans' separate identity. The country passed to the Achaemenians in the mid-sixth century and ultimately became a satrapy governed by the family Atropates under Alexander. From this family the name Media Atropatene, and later Adharbaijan (Azerbaijan), was derived. Southern Mannai became modern Kurdistan. Later references to the people of this area call them the Minni (Jeremiah), Matieni (Herodotus and Polybius) or Mantiane (Ptolemy).

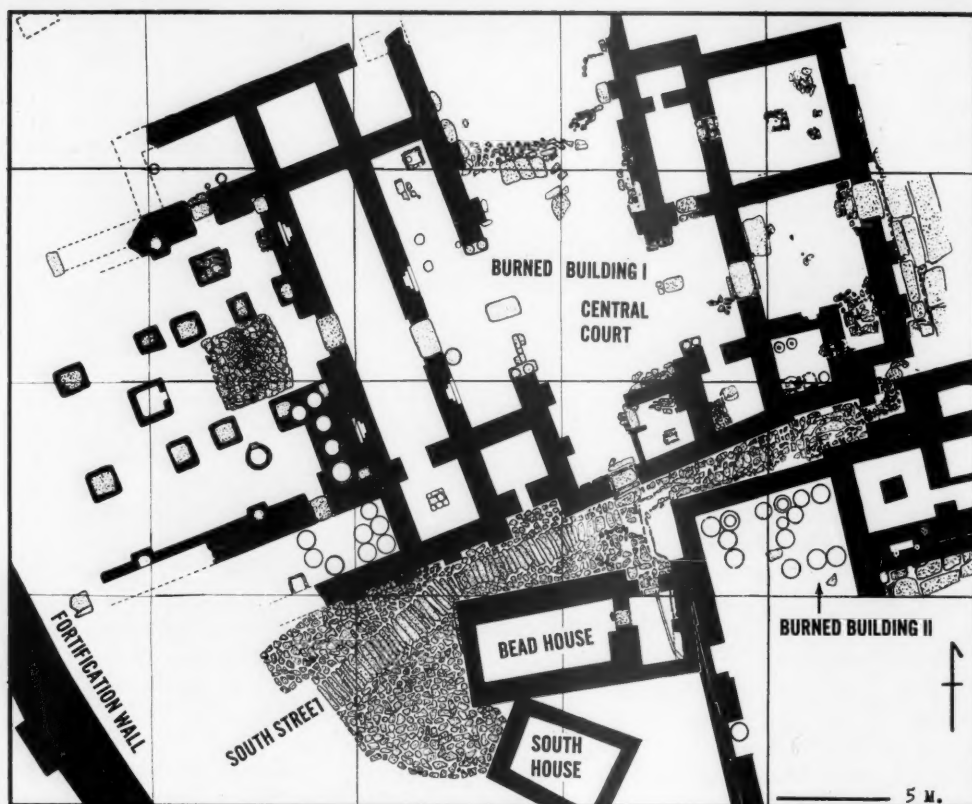
Who were the Mannaeans? The answer lies in three areas: language, race and culture. At the present time the first of these provides the lion's share of basic data. Place names and personal names, mentioned in written texts, indicate that the population (or at least the ruling class) spoke an "Asiatic" language called Hurrian. This

is a non-Semitic and non-Indo-European language with no clear connection to any modern language. Hurrian was spoken at Mari and Alalakh (in Syria) at the time of Hammurabi, and subsequently (after 1500 B.C.) spread over a large part of northern Syria and Mesopotamia. During the following three hundred years a number of kingdoms were maintained by Hurrians, the best known of which is Mitanni. Hurrian groups are documented from the region around Kirkuk and Rania (near the Iraq-Iran frontier) by excavations at Nuzi and Dokhan. East of here, from the ninth to the seventh century, lay the Hurrian kingdom of Mannai.

Evidence for the racial type found in western Iran in the prehistoric period is extremely limited. The skeletal material from the few excavated sites (including seven individuals from Hasanlu obtained by Sir Aurel Stein in 1936) indicates a basic long-headed Mediterranean type. Although some tendency toward medium head-length may be seen, no real evidence of a new racial type is found until some time after 1000 B.C., when a round-headed group is found in the late cemetery at Tepe Sialk. Similar "round heads" or "armenoids" form the dominant type in neighboring Anatolia from Hittite times onward. Thus, although the long-



Map of northwestern Iran and neighboring areas, showing the location of Hasanlu and related sites.



Plan of ninth-century buildings at Hasanlu. Burned Building I occupies the upper portion of the plan. Across South Street lies Burned Building II, with its partially excavated storeroom and stairwell. In the lower center lie the Bead House and the South House. At the lower left is part of the surrounding fortification wall.

Hasanlu cont.

headed type appears to have been dominant in Iran in prehistoric times, there is always the possibility that smaller groups of different type were present in the ruling classes at various periods. The skeletal material available is hardly sufficient to reveal such groups, should they exist, and does not, therefore, yield any definite conclusions.

More informative than the physical types are the cultural remains of the periods in question. Some understanding of these remains may be gleaned from Urartian and Assyrian texts. These indicate the existence of hereditary royal power exercised by the king, aided by a strongly entrenched aristocracy. Mannai appears to have been organized into territories under local nobles owing allegiance to the king, who lived in Izirtu, the capital (thought to be near Saqqiz). Below the nobles must have been the military officers and artisans, and below

these the ordinary farmers—for in many areas the country consisted of settled agricultural villages. Written records differentiate between the capture of "fortified, walled cities" and "small towns in their surroundings." The Urartian king Sarduriš II refers to the taking of "fortified citadels" or "fortresses." The Assyrians pulled down these fortification walls and set fire to the houses inside. Small towns were simply burned. Thus it is clear that a settlement pattern of scattered villages, with occasional fortified citadels occupied by resident noblemen and administrators, covered the countryside outside of the capital. Living in or near each citadel, no doubt, were artisans, and perhaps even a scribe or two, to serve the lord's material and administrative needs.

AT THIS POINT the reader may ask what light archaeology has to shed on this problem. Prior to 1947 the

answer would have been "none," for the only work in the area was a reconnaissance made by Sir Aurel Stein in 1936. A turning point was reached, however, in 1947 with the discovery of the hoard of gold at Ziwiye, and the excavation of a number of graves at Hasanlu by the Archaeological Service of Iran. In the following year T. Burton Brown carried out a six weeks' exploratory excavation at Geoy Tepe which yielded a series of ceramic materials dating back to the fourth millennium B.C. In 1949 further excavations were made at Hasanlu by the Archaeological Service.

In 1956 the Hasanlu Project was formally instituted, and a program of excavation was undertaken with the aim of documenting stratigraphically the succession of cultures in the Solduz Valley (in which Hasanlu is situated) over as wide a time-span as possible. After four seasons of work it is possible to present the tentative results in the accompanying chart. There are a number of gaps in the sequence and many problems concerning the content and exact date of each of the periods indicated. Of these periods, the Gray Ware Phase at Hasanlu itself ("Early Mannaean," historically speaking) is the best known and most important for the study of protohistoric culture in this part of Iran.

In the ninth century B.C. Hasanlu was just such a "fortified, walled city" as already described: a high citadel defended by a massive fortification wall enclosing the dwellings of the noblemen, and an "outer town" at the foot of the citadel, without any enclosure wall, consisting of scattered private houses and a cemetery area. Some time near the end of the ninth century, or in the eighth, the city was sacked, burned and abandoned.

In one private house, which we called the Artisan's House, were found fragments of one- and two-piece molds for casting bronze ingots, axes and jewelry. During the sacking of the city the roof of the house had collapsed under its load of storage jars and killed one of the occupants. The house appears to have been one story high, with walls of sun-dried mud brick set on low stone foundations. The presence of the storage jars in the roof debris indicates that the roof was flat, no doubt like modern village roofs of timbers overlaid by reed matting and mud. Outside the house was a courtyard with a small kiln. A large stone slab turned on edge formed part of a small vestibule leading into a narrow entry hall closed by a door pivoted on a stone socket. The main room of the house was about seven and a half meters square. On one side of it was a small paved area with a drain along one edge. On the floor were found broken vessels of finely burnished gray-black pottery.

Beyond the Artisan's House, along the northern edge of the outer town, lay the cemetery. The grave stratum

was two meters thick, indicating that the cemetery had been in use for some time. The superimposed graves showed no significant changes from earlier to later examples. Individual graves varied in terms of personal ornaments worn by the dead (bronze pins, bracelets and rings, paste and stone bead necklaces) but shared the common feature of simple inhumation in an earth grave. The body was generally accompanied by a spouted jar, a storage jar and a small bowl or jar. In some cases a greater number of bowls and small jars were present. Usually a quarter or two of a sheep or goat was placed over the vessels as an added offering. Mouse bones in some of the jars indicated that they had probably held grain (the jar acting as a trap for the thieving rodent!). Burnished gray or red and plain buff wares were in use, with gray predominant. The spouted jars, which pour quite well, may have been used for wine, for which the country was famous. In some instances they were set upon a tripod stand. Such jars have also been recovered from the palace area on the citadel, indicating that they had more than a funerary use. No standard orientation or position was adopted for the extended body. One grave had been lined with mud brick; another had a cobblestone retaining wall along the sides. This particular grave, of a warrior, was unusual in that it contained the secondary burial of another adult—relative, retainer or friend, we cannot know. Within such limited variations the social hierarchy is reflected. That a greater variation existed is suggested by a grave excavated in 1947 which contained five slaughtered horses and their equipment. The period to which such graves belong is as yet undetermined.

The palace area crowns the citadel mound some seventeen meters above the level of the outer town. The citadel's area of approximately sixty acres was defended by an encircling stone and mud-brick wall approached by a slope of about 33 degrees. The free-standing foundation (3.20 m. thick, 2.60 m. high) was built of stone blocks ranging in size from large slabs down to small boulders. The stonework was not fitted exactly but stood high enough above a man's head to make it difficult for any mining operation to be used during a siege against the overlying brickwork. Several courses of large rectangular bricks still *in situ* at one point indicated the nature of the superstructure. In his annals Sargon refers to walls eight cubits (four meters) thick, 120 layers of brick (thirteen meters) high. Proportionately, Hasanlu's wall would have stood about nine meters high. It was protected at thirty-meter intervals by projecting towers, the intervening wall space being strengthened by stone piers set about nine meters apart. The main West Gate passed between two of these, giving access to the palace area by a paved street.

Opposite page: The west storage room of Burned Building II, of the ninth century B.C. Huge storage jars, probably for wine, are characteristic of the period. They are often decorated with raised concentric circles such as those seen here. A stone post-support may be seen in the center of the picture. The line of the rebuilding of the wall shows along the right as a narrow ledge.

View of main room in east wing of Burned Building I, looking through doorway toward central court. The stone slab is in front of a wall once coated with plaster. Beyond is the portico hall.



Hasanlu cont.

The excavated southwest quadrant of the citadel is occupied by Burned Building I, a large palace-like structure. South of it, across South Street (a narrow, paved alleyway which opens out into a courtyard area behind Tower 2), lies the Bead House. This is a small two-room structure, in which were found quantities of beads, broken bone "handles" decorated with incised circles, and shattered stone bowls. Of particular interest was a tiny gold-foil figure of a winged genius of Assyrian type in the "lustration" pose seen on reliefs of Ashurnasirpal II (884-859 B.C.). Both rooms have benches along the walls. Behind the Bead House stands South House, a poorly built one-room structure containing a hearth and a large quantity of pointed-base gray pottery bowls. East of the Bead House stands Burned Building II. This large, partially excavated building includes a spacious storeroom filled with giant jars (*pithoi*) and pottery funnels. Very possibly these *pithoi* contained wine, a product for which the Mannaeans were noted (and which is still produced in Azerbaijan to the benefit of visiting archaeologists). Next to this "wine cellar" is a stairwell. Both burned buildings were two-storied, as indicated by the collapsed superstructure. They were

no doubt similar in appearance to houses seen in Assyrian reliefs.

The basic plan of Burned Building I shows a central court flanked by an east and a west wing, each wing having a rectangular plan. The west wing portico, facing the court, has three paired wooden columns set on stone slab bases. The side columns are revealed through impressions in the wall plaster and circles on the red sandstone base slabs. The central columns are indicated by the size and position of a central white limestone base slab. The narrow portico hall gives access to a parallel long room through a door flanked by stepped wall niches. This room is joined at either end by a small square room. The room to the left (south) contains a small podium and may have served as a sanctuary. A rear door in the long room opens out into a covered west court, which in turn is flanked by a northern and a southern storage room. A double row of column bases indicates that the court was roofed, with the exception of a small paved area in the center with a sunken drain. The court also has three hearths and a bench running around the walls.

The east wing presents a similar, somewhat modified



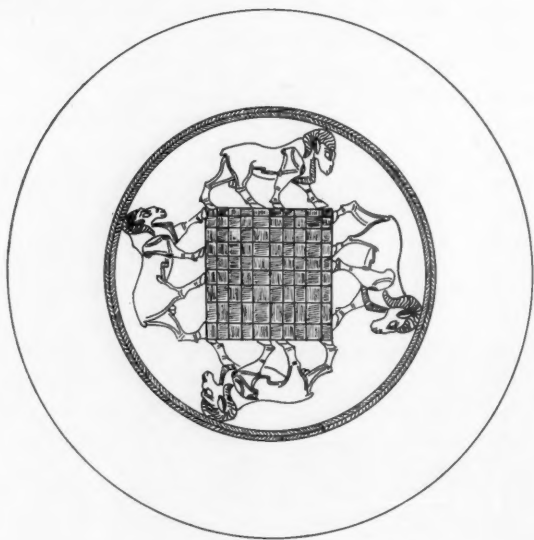
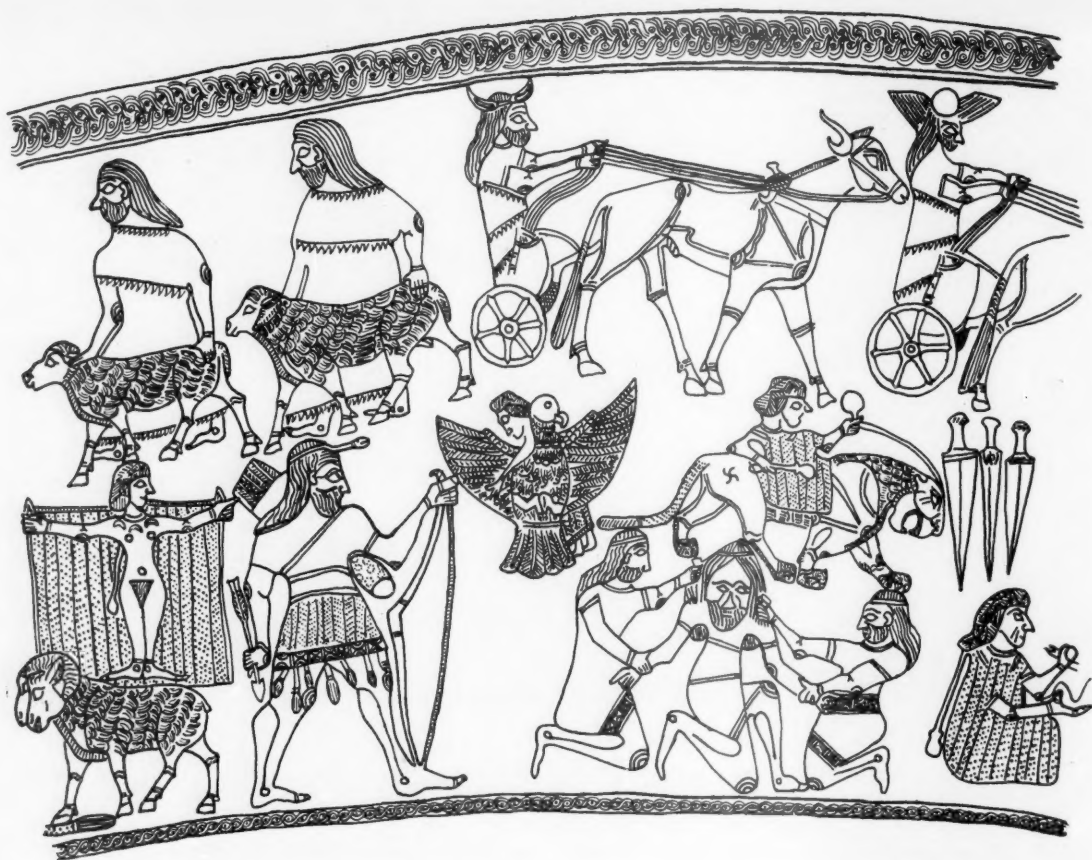
plan. It is entered through a portico facing the central court on the east. To the right (south) is a small room with a central stone post-support and a rubble foundation, perhaps for a stairway. To the left of the portico is a hall which gives access to a large square room with a central hearth. The main room of the wing is entered from the rear of the portico hall. Left of the doorway, against the wall, is a large stone slab. A smaller door opposite the slab leads out into another paved area. The southwest corner of the room is occupied by a small kitchen with two hearths and small jars set into the floor. The stone slab in the main room reminds one of similar slabs in Assyrian throne rooms, and it is not impossible that this part of the building was used as a reception hall, while the other wing may have had a religious function.

Numerous structural changes in the architecture reflect changes in living conditions during the period between the original construction and the final burning: a wide bench set with storage jars was built against the wall bench and niche in the west court; the small room to the right of the portico in the west wing (which balanced the room with the podium) was sealed off

with brick; much of the pavement of the central court was removed for use elsewhere; a small "guardroom" was added in the southeast corner of the central court; the outer wall of the storage room in Building II was rebuilt and its two doorways blocked; and outside these blocked doors accumulated the fill on which the Bead House and subsequently the South House were erected. How much time must be allotted for these structural changes we cannot yet gauge, but it is obvious that a serious decline in upkeep occurred through the years.

Over a dozen persons were trapped in falling debris when the city was sacked. One child was killed in South Street; an old person was caught in the central court by the collapse of the façade of the west wing of Building I; other youngsters and young men were climbing about on the second floor (including three men who were carrying off a gold bowl) when the flaming structure gave way, entombing them.

The location of the objects found in these buildings provides a clue to their function. We have already noted those in the Bead House (bowls, beads and handles), South House (pointed-base bowls) and storage rooms (*pitthoi* and funnels). We must add the contents of the



Drawings of the designs on both sides and on the base of the gold bowl—the most exciting find of the 1958 season (see *Life*, January 12, 1959). The sides are composed of two registers. In the upper one are three gods, probably the weather god (because of the association of the god with the bull), the sun god, because of his headdress of disc with rays, and the moon god or possibly the god of the country, with a horned headdress. Before the three gods stands a priest cup-bearer and two men leading sacrificial sheep. The lower register represents several apparently unconnected symbolic or mythical scenes. These are related to similar ones in North Syria and Mesopotamia. The bowl was found in Burned Building I of the ninth century but is undoubtedly older.



Hasanlu cont.

"refuse room" in the southeastern corner of the west wing. This consisted of sheep and goat bones and black soil mixed with a mass of burnished gray-black bowls of a single shape but different sizes. The pottery of the east wing also included a few of these bowls. More characteristic were small bowls and a few stemmed chalices in thin, fine "palace ware"—a variety of the gray-black pottery.

The second floor of the west wing appears to have been connected with activities of a religious nature. It was on this floor that the gold bowl with its mythological scenes and the silver cup (ARCHAEOLOGY 12 [1959] 171) with its scene of a military victory were kept. In addition there was a double-ring bronze tetrapod stand (for pointed-base vessels) decorated with palmettes, rosettes, animals and men; a three-legged table (?) with copper lion-paw feet and copper angle braces; a

copper "lustration pail" identical in type to those carried in the Ashurnasirpal reliefs; a large bronze basin with projecting handle attachments in the form of birds; a mass of tesserae made from bone and ostrich eggshell; copper vessels decorated with chased designs or relief decoration. The assemblage, taken as a whole, suggests ritual activities involving libations. The presence of a room with a podium, the curious "refuse room" with its bowls, the stepped niches and an enigmatic drum of stone in the portico, all in the same building, add significantly to this possibility. The large covered courtyard capable of holding a number of people may also have had a function in this regard.

The careful planning and the importation of a huge quantity of stone for construction show that the citadel was intentionally fortified. Many of the objects found—glazed vases and wall tiles, a knobbed stone macehead,



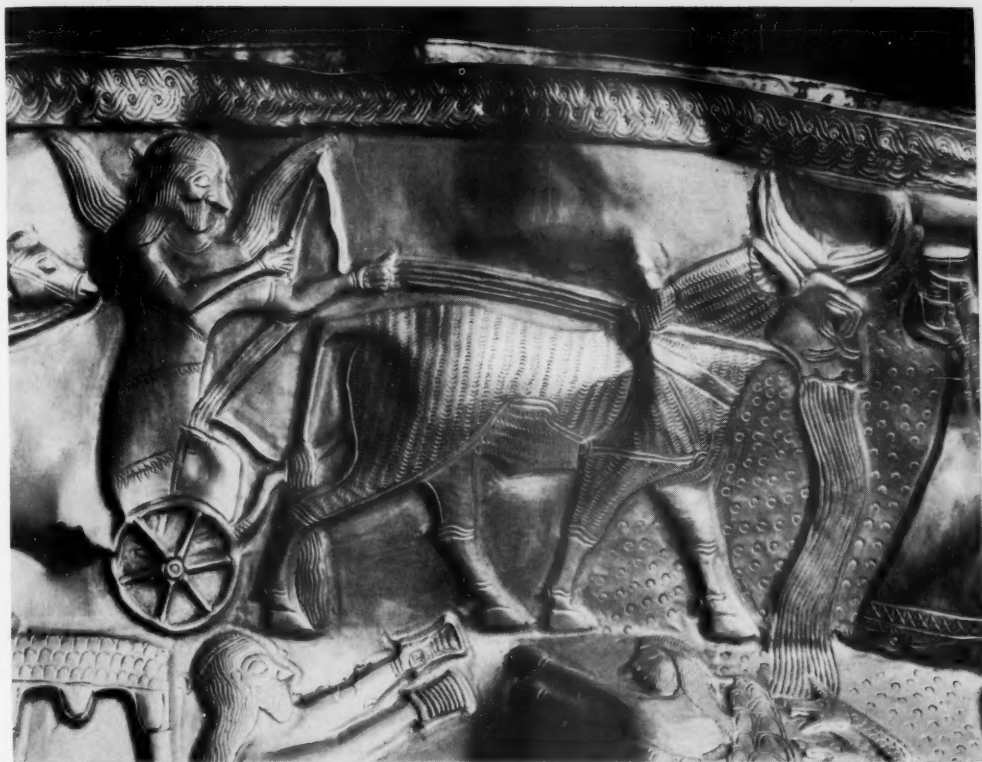
Detail from the Hasanlu Bowl showing one of the sacrificial sheep being led to the gods by a man (probably a priest). The man has the same long hair and beard seen on the gods, and a similar "wrap-around" robe. Compare the manner in which the sheep's horn frames its face with the similar style of the horn on the ram's head rhyton. The general posture recalls the sheep-leading scene in stone relief at Persepolis.

Hasanlu cont.

a gold foil lustration figure, a copper lustration pail, etc.—are derived from Assyrian prototypes dating to the ninth century B.C. This general date is supported by the radiocarbon dates so far available from other parts of the site. If the preliminary dates are correct, the material could belong to the period of Assyrian expansion in the middle of the century. The destruction of the site and its temporary abandonment might then plausibly have been due to the Urartian expansion at the end of the century, during the Assyrian decline.

THE STRONG INFLUENCE of Assyria at Hasanlu in the ninth century is, in any event, readily apparent. The origin of the local ninth-century culture itself, however, remains obscure. The underlying "Button-Base Phase" sheds some light on this problem. The burial ritual of this earlier period corresponds to that of the ninth century in that simple extended inhumation without set orientation or position was practised, while sheep and

goat meat was offered along with other food and drink. The shapes of the vessels differ from the later ones but are made from similar gray, red or buff fabrics. It is noteworthy that whereas in this earlier period a tankard with stemmed foot, meant for drinking, was provided, in the ninth century this was replaced by a spouted jar—the actual container of the liquid. The gray ware of the Button-Base period is linked to the general gray ware tradition of central Iran through comparable material at Tepe Sialk A and Khorvine (near Teheran). At the same time painted button-base vases link the culture to the late Hurrian strata of northern Iraq as seen at Tell Billa (III) and Ashur. The burial ritual suggests an essential continuity of some kind between the Button-Base and Gray Ware Phases which sets them off from both preceding and following cultural periods. The painted pottery provides a link for the earlier aspect of this pattern to the Hurrians of northern Iraq in the late second millennium B.C. Furthermore, the Hasanlu



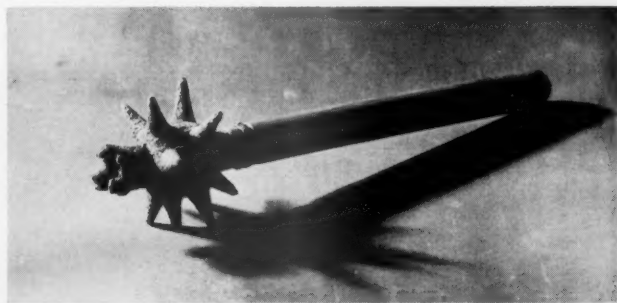
The weather god in his chariot drawn by bulls, as seen on the Hasanlu bowl. Only one of the pair of bulls hitched to the chariot is shown; the other is indicated only by the doubling of the horns. Note the curious harness arrangement and the fondness for surface detailing. The bull spews water from his mouth to the land below. The shape of the bowl is identical to that of a vessel found at Kalar Dasht. The height and diameter are each 23 cm.



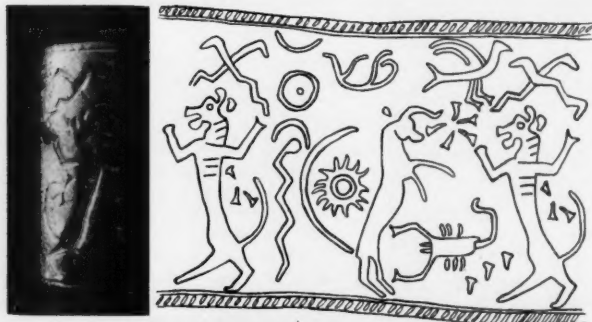
A detail from the silver cup found in Burned Building I. A soldier-guard is shown armed with bow and quiver, spear and sword, marching at the end of a procession (not shown) consisting of a chariot (with driver, guard and prisoner), walking prisoner, second guard, and unmounted horse. Fragments of cloth adhering to the surface of the cup both inside and out show that it had been wrapped in cloth at the time of its accidental burial. Height 17 cm.



A rhyton or drinking horn—the most spectacular find of the 1959 season. It is made of bronze, with lapis lazuli paste inlay in the eye and eyebrow and probably above the nose. There is a silver band of raised animals and rosettes around the rim. The horns also were originally overlaid with silver. The cup itself is made in two parts, a plain inner one reaching from the rim to the eye, and an outer one in the form of a ram's head. The two are attached at the rim. Length 15 cm. Ninth century B.C. The drawing (by Grace Muscarella) shows the rhyton as it originally appeared.



A bronze star macehead which was carried by one of the three men fleeing with the golden bowl. An identical macehead is known from the Caucasus. The wooden handle has been restored, using the impression left by the original in the earth. Length 30 cm.

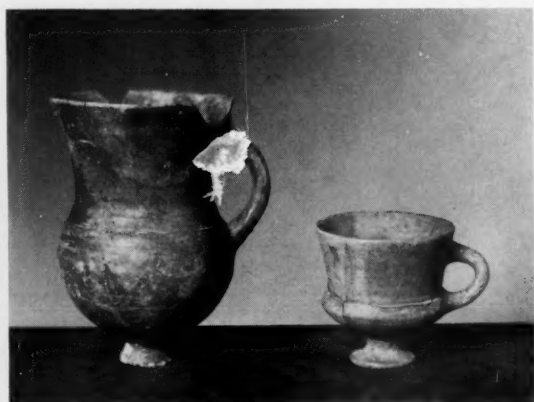


Cylinder seal of lapis lazuli paste and drawings of the impression. The rampant lion and bull recall similar figures on the silver cup. Found near the stone-lined drain of South Street. Length 5 cm.

Hasanlu cont.

gold bowl, although found in the ninth-century level, must be dated to this earlier period on iconographic and stylistic grounds. These connect it on the one hand to the Hurrian-period monuments of north Syria and southern Anatolia, and on the other to the weapons of the Talish area of Russian Azerbaijan and the metal vessels now known from the Caspian shore, as well as a bronze wand from Tepe Hissar, east of Teheran. The many clearly Hurrian representations on the bowl, as well as the very fact of its still being in the area after two hundred years or more, speak for the continuity of Hurrian influence from at least 1200 B.C.

Thus the excavations at Hasanlu provide new evidence of the material culture of the northwestern Mannaeian area. The materials from the late second and early first millennium B.C. appear to accord with historical sources. They show a basic gray-ware ceramic tradition shared with central Iran, to which Hurrian ceramic elements from the west were added. Later, Assyrian elements were introduced, producing the cultural pattern seen in the ninth century. It may be suggested that this culture emerged as the result of the establishment in the area of a Hurrian state, Mannai, in alliance with Assyria. Whether in this early period the Solduz Valley was controlled by the kings of Izirtu cannot be determined in the absence of written records. Indeed, we do not yet know that the whole of the Mannaeian area shared a single culture. Nor are the earlier stages of development and the relationship of surrounding areas, particularly Urartu, understood. Only the diligent application of spade and trowel will clarify these matters.



Two burnished gray pottery drinking cups from graves of the Button-Base Phase, which immediately precedes the Gray Ware Phase. Such cups are standard items in graves of this phase, along with bowls of similar pottery and occasional painted buff-ware vases.

PRELIMINARY CHRONOLOGY OF SOLDUZ (Stratigraphic)

<i>Estimated Time Range:</i>	<i>Identifying Pottery:</i>	<i>Related Material:</i>
?	Hajji Firuz Ware*	?
?	Dalma Ware*	? (Hassuna; Proto-Sesklo)
<u>3502 ± 160 B.C.</u>	Pisdeli Ware*	Tepe Gawra 18-17
c.3300 ± 100 B.C.	—?—	Geoy Tepe M
<u>2157 ± 136 B.C.</u> <u>2063 ± 134 B.C.</u> <u>2023 ± 135 B.C.</u> <u>2002 ± 134 B.C.</u> <u>2002 ± 134 B.C.</u>	Hasanlu Painted Orange Ware	? (Geoy Tepe terminal K)
c.1750 ± 100 B.C.	Hasanlu Billa IV Ware**	Tell Billa IV
c.1350 ± 100 B.C.	Hasanlu grave X-B2	Nuzi "Hurrian" strata
<u>1125 ± 122 B.C.†</u> <u>1042 ± 120 B.C.</u>	Hasanlu Button-Base Phase	Geoy Tepe B, Tepe Giyan I, Tepe Sialk A, Tel Billa III
<u>923 ± 119 B.C.</u> <u>812 ± 130 B.C.</u> <u>807 ± 117 B.C.</u>	Hasanlu Gray Ware	Geoy Tepe A, Tepe Giyan I, Tepe Sialk B, Nimrud (Ashurnasirpal); Ashur (Shalmaneser III)
c. 700 ± 100 B.C.	—?—	Ziwiye (site) (and gold hoard?)
c. 600 ± 100 B.C.	Hasanlu Triangle Ware	(Ziwiye and Susa)
c. 500 ± 100 B.C.	—?—	Susa (Persian Village)
c. A.D. 1 ± 200	Hasanlu Cist Graves	Parthian Babylon, Ashur

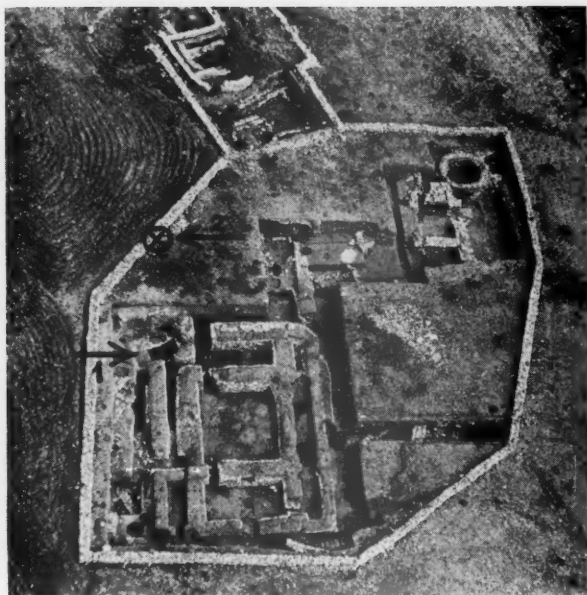
* Prehistoric mounds near Hasanlu.

** Sherds only known to date.

— Radiocarbon dates are underlined.

† Previously incorrectly attributed to the Gray Ware Period.

Mr. Dyson informs us that two recent radiocarbon tests, the most reliable so far, fix the date of the start of the Gray Ware Phase at ca. 900 B.C. ± 50 years. A timber post fragment from Burned Building I (which dates its construction) gives an average date of 908 ± 43 B.C. Ash from the base of the fortification walls (which should date its construction or at least provide a postquem date) gives an average of 907 ± 53 B.C.



Lerna. Air view of part of the excavated area after the campaign of 1954. Shaft Grave 1 is seen cutting through the walls of the Early Helladic palace (The House of the Tiles). The position of Shaft Grave 2, found in 1955, is shown approximately by the second arrow.

ROYAL SHAFT GRAVES AT LERNA

EXCAVATION OF GRAVE CIRCLE B at Mycenae was completed by Dr. Papademetriou and Professor Mylonas in 1954. In the same year another shaft grave was discovered scarcely thirteen miles away as the crow flies, at Lerna on the Bay of Nauplia; and in 1955 a second came to light there, almost a duplicate of the first. They are comparable in size to some of the bigger graves of Circle B, and the manner of their construction is by no means inferior. They belong to the same exciting period of history around 1600 B.C., when Mycenae and the Argolid were rising suddenly to a position of power and leadership in the Mediterranean world. But there the similarity ends, for the shaft graves at Lerna held no treasure. They had been opened and emptied in antiquity, probably before the end of the Mycenaean period itself.

Few big graves of this kind have been discovered except at the capital city. One is reported on the island of Skyros. Several of impressive size but of slightly different type were found by Mylonas in the cemetery of

Eleusis. Cist graves of the preceding Middle Bronze Age in Greece were occasionally large enough to hold more than one burial. The term "royal," however, is generally applied only to the greatest of these tombs, those which in their dimensions and in the richness of their furnishings imply exceptional wealth. Wealth in turn is assumed to imply political and military leadership. The deduction is not unreasonable and need not be questioned, but it is perhaps worth bearing in mind that our knowledge of Mycenaean social and political organization, particularly in this early period, is imperfect.

A mighty citadel and palace indicate that there were kings at Tiryns, less than ten miles from Mycenae. Were there kings at Lerna also? The two graves must be classed as "royal," at least in archaeological terms. Their shafts were over four meters long and 2.50 m. to 3.25 m. wide, roughly rectangular but curved somewhat toward the ends. The whole mound has been denuded since ancient times; therefore we know not how high the



View showing how second shaft grave partially destroyed apses of two successive houses of earlier date.

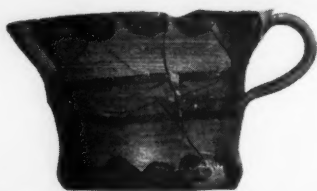
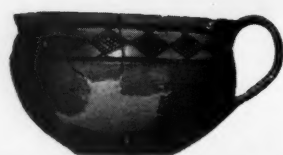
By John L. Caskey, Professor of Classical Archaeology, University of Cincinnati

surface lay in the early Mycenaean period, or whether a wall once enclosed the burial plot, perhaps even forming another of the characteristic Grave Circles. The Lerna graves themselves, found some three meters below the modern level of the hilltop, are of stone masonry pointed with yellow clay; they are rectangular boxes nearly ten feet long, far larger than the stature of a man (Grave 1, 3.20 m. \times 1.25 m.; Grave 2, 2.95 m. \times 1.30 m.). Many of the building stones had been torn out and have since been partially replaced by us. The floors are of rounded pebbles, in the traditional Middle Helladic fashion.

Only minute bits of human bone were found in the filling of these great pits. Two fine little cups lay in a corner of Grave 2, and there were a few scraps of corroded bronze. Otherwise only fragments of pottery were recovered from the filling. "Only," reflecting the excavators' momentary disappointment, is perhaps a misleading word, for no less than forty-five basketsful of



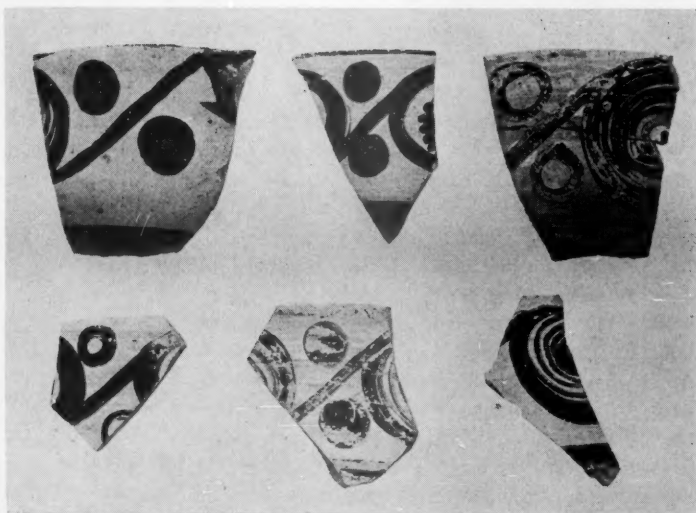
Shaft Grave 1 from the north. A section of the west wall had been torn out in antiquity.



Spouted jar of Minoan form but of local manufacture, put together from fragments found in the filling of Shaft Grave 1. Late Helladic I. *Below:* Small polychrome matt-painted cups from Shaft Grave 2.



Bases of pots with graffiti, from shaft graves.



Rims of cups showing characteristic patterns of tangent-spirals and dots. Found in the shaft graves. Late Helladic I.

Shaft Graves cont.

potsherds were collected. From them not many vases could be wholly reconstituted, but the collection is not without interest. It includes great quantities of fine yellow Minyan ware (chiefly fragments of small cups), red-brown slipped ware (chiefly goblets), many varieties of matt-painted ware with patterns in one or two colors, several plain fabrics of Middle Helladic types, and many examples of the earliest Mycenaean glaze-painted wares (Late Helladic I, sixteenth century B.C.).

Among the fragments are eighty-five or more that bear graffiti, incised before the pot was fired. The marks, cut or impressed with a sharp implement, occur usually on or near the bases. They are combinations of short straight lines, sometimes with punctuated dots, rarely with small plastic knobs or ridges added. Graffiti of this sort were found at Phylakopi in Melos and a few have been noted on the mainland, especially at Eleusis and Asine. At Lerna they occur also on pottery of the Middle Helladic settlement preceding the shaft graves. A notable, and perhaps ultimately very important, fact is that a dozen of these signs are identical with characters of the Linear A syllabary.

The shaft graves at Lerna present several provocative problems, which we hope may yield to solution after further study. One question is why the skeletons should have disappeared, not only from these two but also from another grave, smaller but still sizable (1.83 m. \times 0.98 m.) and of slightly earlier date. This last, a built grave with a stone cover, and Shaft Grave 1 both

showed evidence of having been carefully sealed after they were emptied. The tombs had undoubtedly been used, and not merely for the bodies of small children (whose bones sometimes disappear through complete dissolution). One possible explanation of the data is that these graves were emptied not by tomb-robbers in search of valuable objects but by the descendants of the dead who deliberately gathered the bones in order to rebury them in some other place. There are ancient accounts of that practice in Classical times and it occurs in some circumstances today.

One interesting piece of information emerged when the pottery from both shaft graves was re-examined all together in 1958-59. Previously, when the huge masses of material were studied as separate grave groups, we had of course observed the close similarities of types. Now we found that some of the sherds from one group made physical joins with those from the other. Thus we know that, whatever the occasion may have been, both graves were opened and refilled at one time, some of the earth from Grave 1 being thrown back into Grave 2 and vice versa.

REPORTS on the excavations at Lerna have frequently appeared in *ARCHAEOLOGY*: 6 (1953) 99-102; 7 (1954) 28-30; 8 (1955) 116-120. Accounts of the discovery of Grave Circle B at Mycenae may be found in *ARCHAEOLOGY* 5 (1952) 194-200 and 8 (1955) 43-50. For brief reports on Professor Mylonas' grave finds at Eleusis see *ARCHAEOLOGY* 5 (1952) 249; 6 (1953) 245-246; 10 (1957) 66-67.

Highlights of the
AUTUMN
issue of

ARCHAEOLOGY

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by George G. Cameron

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by Spyridon Marinatos

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ROMAN POTTERY IN POLAND

by Stanislaw Jasnosz

ARCHAEOLOGICAL PROJECTS IN CANADA, 1959

by Richard S. MacNeish

Byzantine

Bronze Peacock

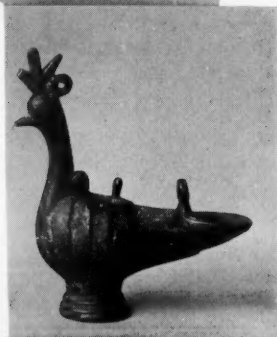
Lamps

By MARVIN C. ROSS

AMONG THE MOST FAMILIAR OBJECTS in any collection of early Byzantine art are bronze lamps, candleholders and lampstands. Although they come from many parts of the Byzantine Empire, there were doubtless particular centers where such objects were made and from which they were distributed to other places. The assembling of information about various types—where they have been found, and where they probably were made—is of great assistance in understanding the cross-currents of artistic influence that formed the Byzantine style, and also the trade routes by which these objects were carried throughout and beyond the Mediterranean world.

During Roman times Egypt seems to have developed a perfectly standardized factory production of bronze statuettes. It has been suggested that such manufacture came to an end in the third century, but this appears not to have been the case. Standardized production continued, but in the course of time the bronze-casters adapted their technique to the needs of a Christian rather than a pagan community. After the Roman period Egyptian craftsmen apparently made lamps, lampstands, paterae and other objects of bronze, some for liturgical and some for domestic use, applying the same production methods as had been employed in earlier times.

The bronze paterae have already received considerable attention, since they are of particular interest to students of mediaeval migration art, and are reported to have been found in the graves of Longobards, Alamans and Visigoths. They can be traced back to Egypt and are doubtless examples of the wares exported from that country in the sixth and seventh centuries. We know that



Three peacock lamps from Egypt. Those above and below, left, were found at Tell-el-Yehudiyeh; the third has no recorded provenience. Photograph courtesy of Trustees of the British Museum.

during the seventh century Alexandria still maintained her export trade with the Mediterranean area because we read in the life of St. John the Almsgiver, Patriarch of Alexandria, that he owned ships used for commerce and that he used the money gained by export to the Adriatic and elsewhere to help the poor of the city. St. John was patriarch during the first part of the reign of the Emperor Heraclius (610-641).

Among the lamp types from Coptic Egypt of the Byzantine period is one in the form of a peacock. These lamps were made by casting, then finished by engraving and other methods. The hollow bodies of the birds are receptacles for oil, which was poured through openings



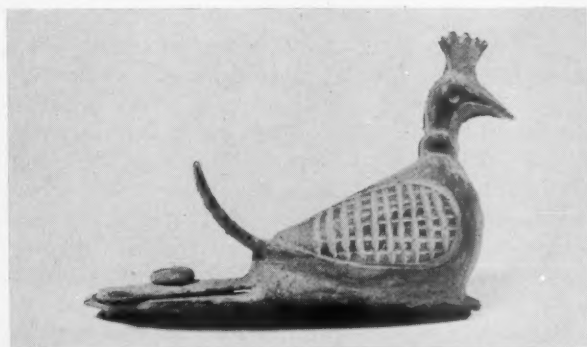
Peacock lamp. Photo courtesy Römisch-Germanisches Museum, Mainz.



Peacock lamp in the collection of Mme. Hélène Stathatos, now in National Museum, Athens. Photograph courtesy of Mme. Stathatos.



Peacock lamps fitted to elaborate lampstands. Photo courtesy William Rockhill Nelson Gallery, Kansas City.



Wick-trimmer in the shape of a peacock. Photograph courtesy of the Royal Ontario Museum, Toronto.



Peacock lamp. Photograph courtesy of Dumbarton Oaks Collection, Washington, D. C.

Peacock Lamps *cont.*

in the backs; these were covered by lids which were cast separately. The wicks extended through holes in the tails. These lamps were made to be set on tables or on lampstands. Some had chains in addition so that they could also be hung. A lampstand was naturally the safest and most practical place for a lamp, since it had a spike at the top over which the lamp fitted. Doubtless there was a series of such lampstands in all affluent households, conveniently placed, providing greater safety against danger of fire than lamps set on tables where they could be overturned, or blown by the wind if hanging. There are now about a dozen lamps of peacock shape in various collections. One, which was found in Egypt, is in the Cairo Museum. In the British Museum are three examples, all found in Egypt, two at Tell el-Yehudiyeh, the third at an unrecorded site. These examples would seem to establish an Egyptian origin for all the lamps. Others from unrecorded proveniences are in the Dumbarton Oaks Collection, the Victoria and Albert Museum, the Berlin Museum, the Römisch-Germanisches Museum at Mainz, and in the collection of Madame Hélène Stathatos (now in the National Museum) in Athens. Two examples have recently been acquired by the William Rockhill Nelson Gallery of Art in Kansas City. All of these are of the same general type, with different degrees of finishing, and varying slightly in the engraved decoration. One of those in the British Museum has plain wings without indication of feathers. The one found with it, however, has conven-

tionally designed feathers and a slightly different crest.

The peacock was an ancient symbol of Paradise and continued as such in the Byzantine period. It is found in sculpture, mosaic, jewelry and other arts. Peacock lamps were appropriate for churches and for Christian homes. There were also peacock-shaped wick trimmers; one of these is now in the Royal Ontario Museum in Toronto. The two peacock lamps in Kansas City, said to have been found complete with their stands, were found with two other lamps, also with stands but not in the form of peacocks. The handles of the latter are decorated with a cross and scroll. Apparently lamps could be ordered to suit one's taste, the peacock as a symbol of Paradise or the cross emblematic of the Resurrection—meanings, after all, not far apart.

The peacock lamps, although standardized products, have grace and charm. Although they were factory-made, the molds seem to have varied slightly. The subsequent finishing afforded some freedom for individual design, particularly in details of decoration, which save them from monotony. The lampstands, too, vary somewhat. These were made in separate pieces and fitted together after casting. The baluster shape was a favorite design, and some stands show this element often repeated.

Dating the lamps and stands is very difficult, as few have been reported from official excavations. Since the lamps are definitely Christian, they were probably made before the Arab conquest (641-642), for after this time the arts of the Copts, i.e. the Christian Egyptians, became rather crude and provincial. The peacock lamps have been attributed to dates ranging from the fourth century to the seventh, but the sixth and seventh centuries would seem to be the more likely period for their manufacture. One of the lampstands in Kansas City has a channelled baluster section exactly like the corresponding sections of a pair of silver stands from Hama, in Syria (now in the Walters Art Gallery). The silver candlesticks can be dated definitely in the second half of the sixth century, since other pieces of silver in the Hama treasure bear control marks of the emperors of that time.

Coptic metal workers, as we have seen, continued making bronzes in the Byzantine period in the same standardized way that characterized bronze-casting in Egypt under the Romans, the only difference being that they adapted their skills to the current demands for bronze vessels, lamps and lampstands. The lampstands were most practical and very nearly indestructible, being fireproof, of considerable weight and well balanced. The lamps must have been cheerful appurtenances in churches and households, for when they were originally used they were kept highly polished, and gleamed in the soft light from wicks burning olive oil.

ROMAN TWINS:

Basilicas at Corinth

By Saul S. Weinberg

Professor of Classical Archaeology
University of Missouri

Beginning his study of the twin basilicas in 1946, the author has just published a full account of them in Corinth: Results of Excavations Conducted by the American School of Classical Studies at Athens, Volume I, Part v. The present article summarizes the main points discussed in this volume, omitting the more technical aspects.

THE ROMAN AFFINITY FOR TWINS among their gods and heroes is epitomized by Castor and Pollux, by Romulus and Remus. That this predilection extended to architecture as well is shown by twin buildings discovered in the forum, or agora, of Roman Corinth. These structures are identical not only in plan and overall dimensions but in details such as the size of individual wall blocks and the treatment of wall surfaces. Clearly the two were built from the same plans and specifications, an occurrence which may be unique in the history of ancient architecture. It can be shown without doubt that the buildings were erected at the same time. The combined evidence of coins and inscriptions sets this date in a narrow range at the end of the short reign of the emperor Caligula or early in that of Claudius, probably about A.D. 40.

Though all this can now be stated as fact, it actually took more than fifty years of excavations at Corinth by the American School of Classical Studies at Athens for all the pieces of information to be revealed, and another ten years for the preparation of the final publication. Parts of each of the two buildings were disclosed in trenches during the first years of the American excavations, which began in 1896. But it was not until 1914 and 1915 that one of the buildings was almost entirely cleared. A rich collection of Roman portrait statues of

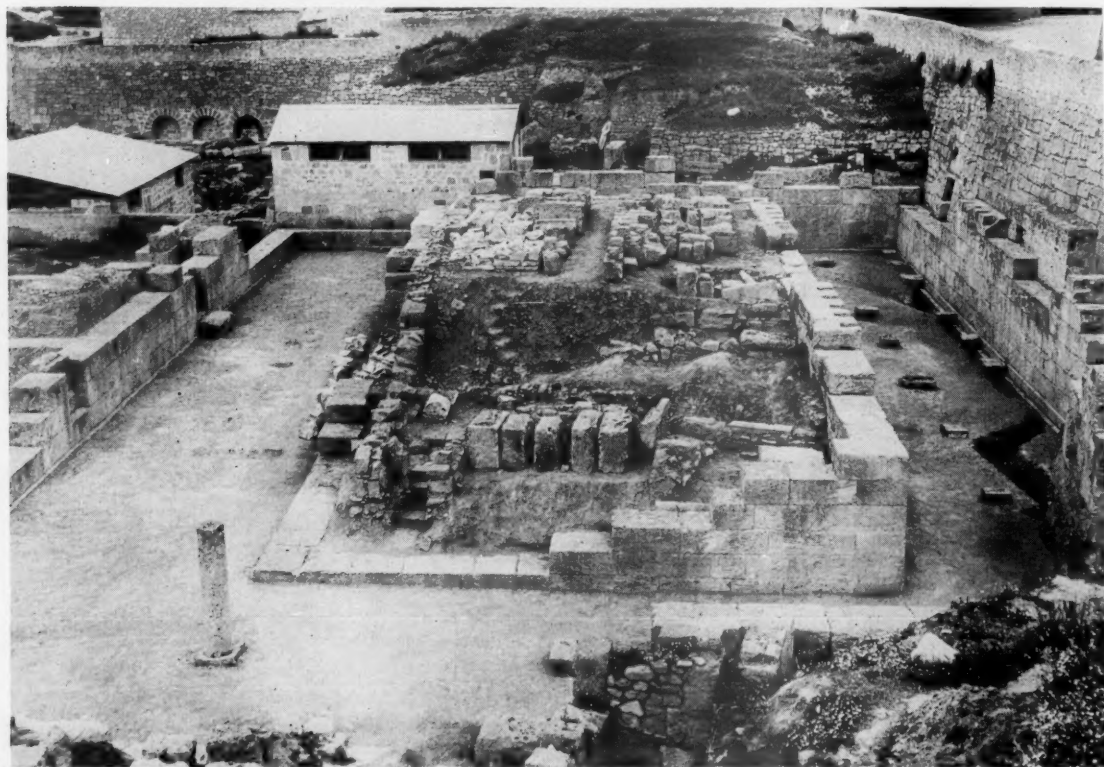
the Julian family which was found in it suggested the name it was given by the excavators, the Julian Basilica. The building's relatively good state of preservation has made it for forty-five years one of the attractions for visitors to the site (Figure 1); in Roman times it formed the eastern border of the forum's lower level (Figure 3). Twenty years later the excavators began the clearing of the upper level to the south, which resulted in the uncovering of the great South Stoa (ARCHAEOLOGY 7 [1954] 74-81) and, behind it, the twin of the Julian Basilica, now called the South Basilica (Figure 2). The close similarity of the two buildings was at once apparent, but it was not until the discovery (in 1937 and 1948) of the porch on one side of the Julian Basilica and the rectangular exedras opposite that the two buildings were shown to be identical twins.

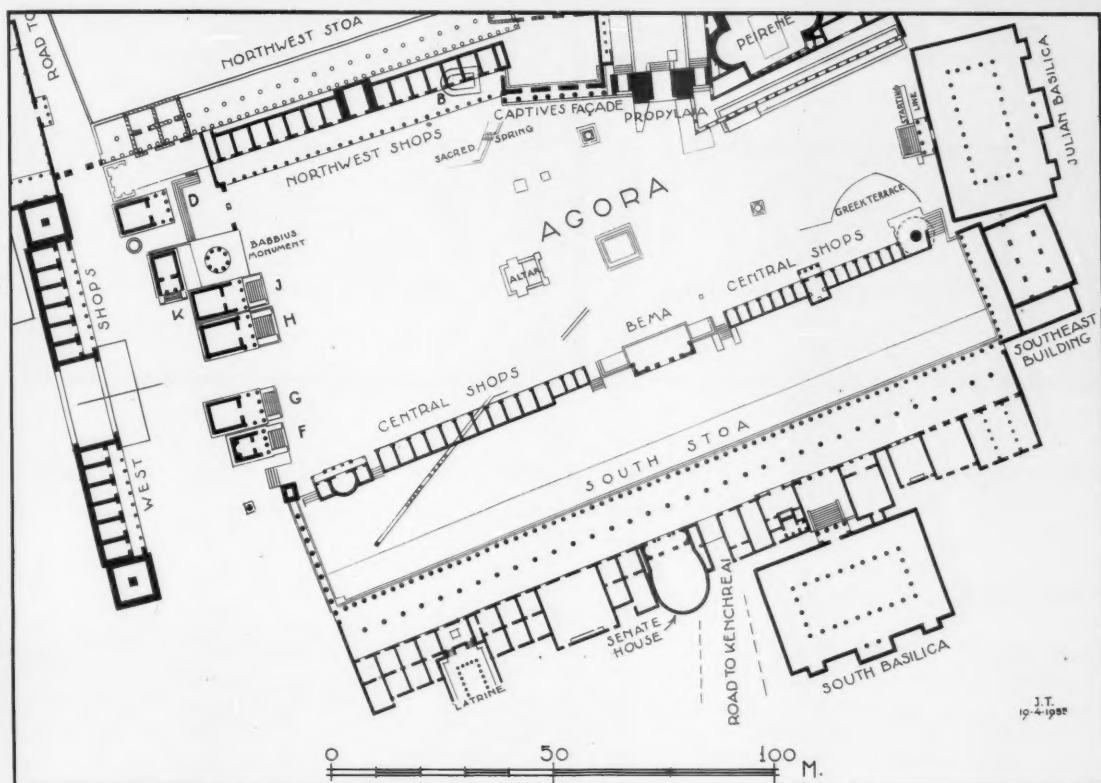
The plan of these buildings is a simple one (Figure 4). The main story consists of a large rectangle with inner dimensions of 127 feet by 80 feet, a proportion roughly one-and-a-half to one. Within is a colonnade on all four sides, leaving an aisle on the outside about twenty feet wide all around. The main entrance is through a porch, twenty-five feet wide and about nine feet deep, at the center of one side. On the opposite side are three rectangular extensions. There are reasons for believing that the central one, which measures 30×10



1. View of the Julian Basilica from the west. The rear wall of the cryptoporticus is preserved in part to its full height. In front of it are collected architectural members belonging to the building.

2. The South Basilica, seen from the west, showing the ground floor with its cryptoporticus around a solid core. One column is preserved. Cuttings for beams supporting the main floor are seen on both sides of the south aisle.





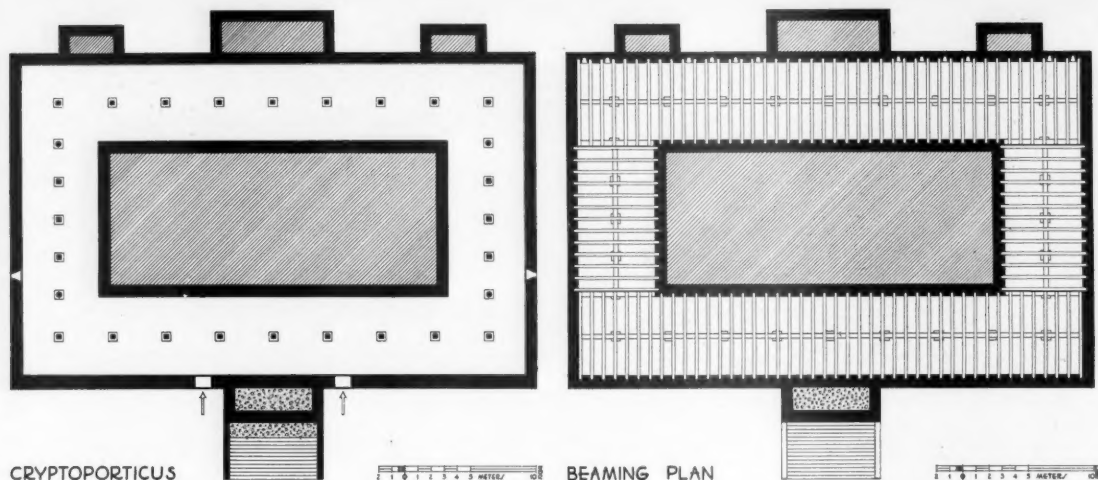
3. Plan of the Agora at Corinth. The Bema and Central Shops divide the lower northern level from the higher terrace to the south.

Basilicas cont.

feet, may have been a porch and entranceway rather than an exedra facing the interior; the smaller side ones, approximately 17×7 feet, were certainly exedras facing into the great hall. As is normal in such basilicas, the interior was lighted by a clerestory over the inner rectangle of the colonnade; windows may have given added light to the aisles. An unusual feature in both buildings is the raising of the main floor some ten feet above the pavement of the agora, on which the Julian Basilica faces, and above that of the large court in front of the South Basilica. Because of this there is a ground floor, or basement, under the aisles, while the center rectangle is a solidly filled core; such a cryptoporticus surrounding a core is found in a variety of Roman buildings.

Each of the twin buildings was set in a cutting made for it, the Julian Basilica into the ridge to the east of the agora, the South Basilica into rising ground behind the South Stoa. In both cases, then, only one side of the ground floor was exposed for its full height, the west front of the Julian Basilica, the north front of the South

Basilica; in both cases the back of the building is almost entirely below ground. Along the ends, the ground level rises from front to back. It is this circumstance, more than anything else, which accounts for the preservation in each building of the back wall of the ground floor to its full height. The cryptoporticus of the South Basilica was filled in during the reign of Hadrian (A.D. 117-138), probably after some damage to the building, and this helped further to preserve it. On the other hand, this filling was very likely responsible for keeping the debris of the main story at a high level, where it was subject to constant pillaging after the building was finally destroyed during the sack by the Goths in A.D. 395. As for the Julian Basilica, in which the cryptoporticus remained open though somewhat remodeled, its destruction in the great earthquake of A.D. 375 threw quantities of the debris from the main floor and the clerestory, as well as the sculptures and other decoration, into the cryptoporticus, where it was quickly buried and thus preserved. The filled cryptoporticus of the South



4. Restored plans of the twin basilicas, showing the successive levels from the ground floor to the clerestory.

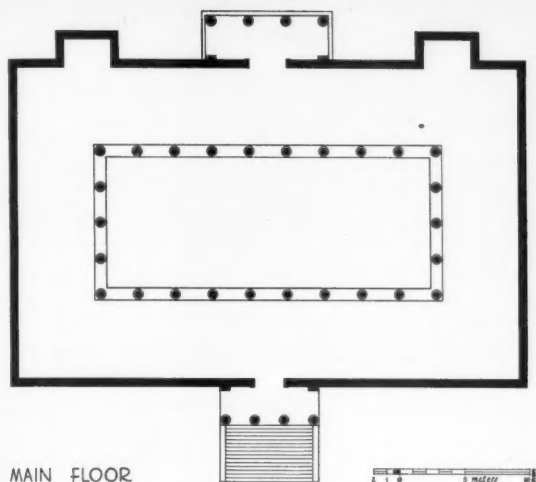
Basilicas cont.

Basilica probably gave the building the added stability necessary to survive the earthquake, but when it was finally destroyed in the Gothic raid two decades later, its remains lay more exposed and soon disappeared. This combination of circumstances, however, has resulted in the preservation in place of the main features of the ground floor, as well as of almost all the essential architectural elements of the superstructure.

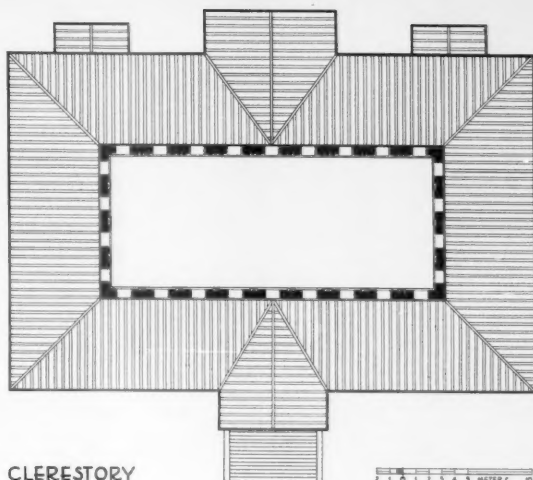
WITH THE DEBRIS of two identical buildings upon which to draw, a reconstruction in almost every detail has been possible. In several places the full height of the cryptoporticus is preserved, including many of the cuttings for beams. In the walls are sufficient remains of cuttings for the ends of girders so that the entire beaming system may be accurately reconstructed, although not one piece of wood is preserved; this is a rare chance. For the main story we are in doubt concerning the height of the columns of the interior colonnade, but since fragments give us the other dimensions of the columns, as well as those of the bases and capitals and the height of the wall courses, there can be little error in establishing the height of the Corinthian order and of the aisles, as is shown in the section (Figure 5). The slope of the shed roof over the aisles, and consequently of the wall above the interior colonnade, is conjectural, but again these must fall within narrow limits. For the clerestory, too, only the height is in doubt, and here good proportion dictates the reconstruction shown. Sometimes a single fragment, sometimes many of the same type, remain to

supply the needed information, but one base or capital is really all that is necessary; one piece of cornice represents hundreds of feet of it. Thus, by searching the debris of both buildings in the immediate area as well as farther afield where fragments were re-used in later buildings, it has been possible to recognize bits and pieces of almost every essential architectural feature. The information from them and from the remains in place has been assembled to make the plans and sections shown here.

As originally built about A.D. 40, the basilicas were made entirely of a rather soft, sometimes fine-grained limestone known as *poros*. The ground floor, entered through a doorway at either side of the front porch, seems to have been independent of the main story; its floor was about two feet lower than the level outside, which gave the cryptoporticus a height of almost twelve feet. The system of beams and girders over the cryptoporticus, as well as the supports for the latter, is clear in almost every detail (Figure 4, beaming plan). Monolithic *poros* columns supported four girders that crossed the end aisles in line with the long walls of the core. Other girders parallel to these were supported by wooden posts regularly spaced down the long axis of each of the side aisles; similar girders extended from column to column on the axis of the end aisles, and were similarly supported. The floor beams of the main story rested on the girders and in cuttings in the top of the cryptoporticus walls; those in the corners extended from the outer wall to the girder over the columns. The



MAIN FLOOR



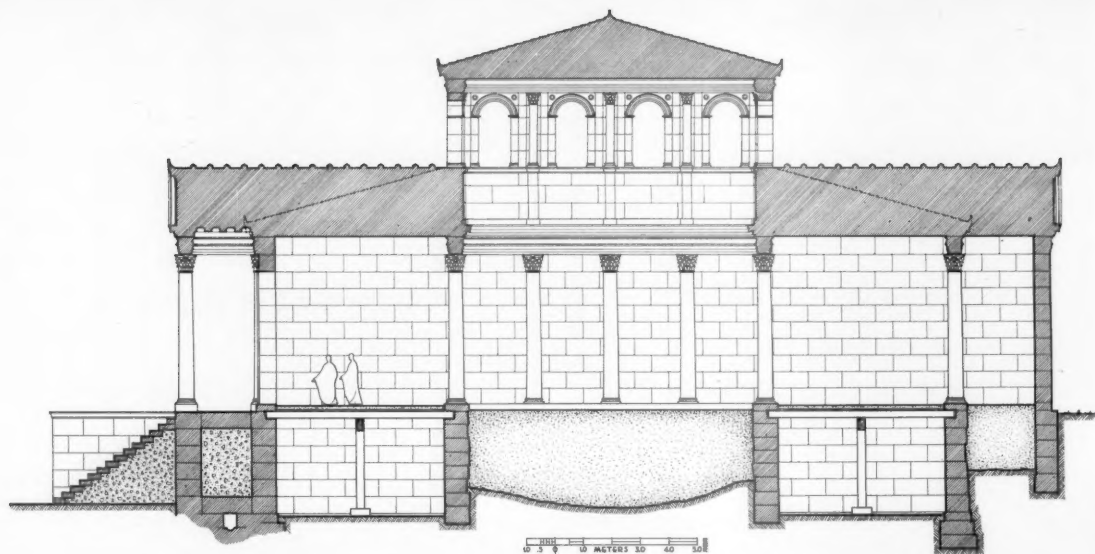
CLERESTORY

twelve-inch beams were spaced about thirty-five inches on centers. The cryptoporticus walls were carefully dressed, the joints pointed up with stucco; there remains in the cryptoporticus of the Julian Basilica a small section of painted stucco, showing that at one time all or part of this story had mural paintings. While this might indicate a good lighting system for the ground floor, the remains show only narrow slit windows high in the wall between the beams at the back of the Julian Basilica, and probably narrow windows just under the beams at the ends of the South Basilica. It is unlikely that large windows were used in this story, though they are not precluded by the actual remains.

In each basilica a broad flight of stairs led from the agora level to the porch, which was decorated by four Corinthian columns and a gable. Otherwise the main façade seems to have been rather plain, the walls consisting of drafted, or rusticated, blocks surmounted by a cornice. In the Julian Basilica the ground story façade was also of drafted blocks; in the South Basilica, where it was largely hidden behind shops of the South Stoa, this façade was merely stuccoed. The inner face of the main-story walls was also drafted, but less boldly than the exterior. The colonnade supporting the clerestory was also of Corinthian style and originally made of poros (Figures 6, 7). There were five columns at the ends, ten along the sides; in the clerestory there were arcades with four arches at the ends, nine on the sides. Very likely another porch occupied the center of the side opposite the agora, for in each case there was a road

on this side at the level of the main floor. This porch probably also had four Corinthian columns, which would have aligned exactly with the four center columns on the sides of the interior colonnade. The theory that there was an entrance here is supported by the existence of seven inscriptions, all reading *IIPO*, cut into the wall blocks on both sides of the south aisle of the South Basilica's cryptoporticus (Figure 8). The inscriptions are restricted to the stretch within the limits of the width of the porch foundations. *Pro* is probably an abbreviation for *prothyron*, meaning front door, doorway, or porch.

IN EARTHQUAKE-RIDDEN CORINTH, each of the basilicas suffered damage, the cryptoporticus making them particularly susceptible. The earthquake of A.D. 79 caused the first major damage. In the South Basilica added supports were needed along the south and west outer walls of the cryptoporticus. There was probably damage to the main story, which resulted in redecoration in which the walls were smoothed on the interior, then given a marble dado, and stuccoed and painted above. Earthquake damage in the time of Hadrian, which resulted in the filling of the cryptoporticus of the South Basilica, also necessitated further remodeling of the main story, in which the poros colonnade was replaced by a close copy in marble. The porches were now also embellished in marble. Apparently at the same time the Julian Basilica received a marble interior colonnade very like that of its twin. The south aisle of the cryptoporticus, which was closed off and vaulted over, became a reser-



5. Restored section of the twin basilicas, showing how the main floor is raised above the level of the forum. The central exedra on the right, here shown with a solid wall, should probably be reconstructed like the porch on the left.

Basilicas cont.

voir; the north aisle was perhaps similarly remodeled. Certainly in the Julian Basilica, possibly also in the South Basilica, the poros architectural elements of the clerestory were retained when the interior colonnade was changed. Each of the basilicas was further decorated on the interior with sculptures that stood against the walls or between the columns, possibly also in the small exedras; large inscriptions on marble were attached to the walls; other inscribed monuments stood about the great hall.

That these buildings are indeed a type of basilica is clear from comparisons with many similar structures all over the Roman world, some of Republican date (Figure 9). Corinth itself possessed another in the North Basilica, which has the entrance at one end, and at the opposite end a tribunal flanked by small rooms. Basilicas at Pompeii, Leptis Magna, Vetera and Khamissa are important examples of the type with rectangular colonnade; the basilica at Fano, near Rome, described by Vitruvius, was of this group. Yet the twin basilicas at Corinth differ from all others in one essential feature. In every other case, the basilica is at the level of the forum, while both basilicas at Corinth are raised some ten feet above this level and are approached by stairways. In neither case is this departure from the norm dictated by the topography; both buildings could have had the main story at forum level and, though set in a



6. A fragmentary Corinthian capital belonging to the interior colonnade of the Julian Basilica.

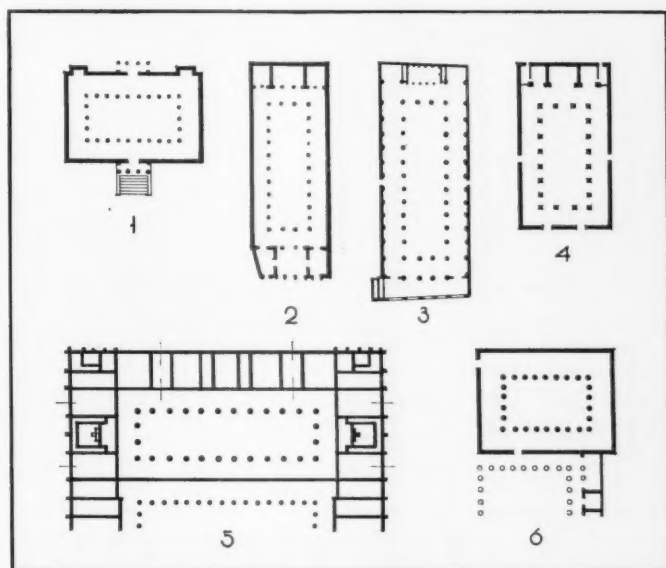
cutting into rising ground, they would have had sufficient light from the clerestory as well as from windows in at least three sides. The level of the main story must have been raised, then, in order to bring it to the level of the street on the side opposite the agora. The porch which has been postulated on this side is thus essential, for the basilicas must have had entrances on both sides and have served, in addition to their other uses, as monumental approaches to the agora. Such cross-circulation is found in a number of other basilicas, sometimes in addition to a main entrance at one end.



8. Section of the cryptoporticus wall in the south aisle of the South Basilica, showing *Pro* inscriptions in the three lower courses.



7. Drawing of the Corinthian order of the Julian Basilica, reconstructed from fragments including that shown in Figure 6.



9. Sketch plans of various basilicas. 1: Twin basilicas. 2: North Basilica at Corinth. 3: Basilica at Pompeii. 4: Basilica at Leptis Magna (North Africa). 5: Basilica at Vetera (Germany). 6: Basilica at Khamissa (North Africa).

But the twin basilicas were more than monumental entrances. In speaking of the basilica at Fano, Vitruvius (V. i. 8) writes that he made the tribunal fifteen feet deep "so that those who come before the magistrates may not interfere with persons on business in the basilica." Since the North Basilica, with its large tribunal, was most probably the seat of the magistrates, the twin basilicas, which have no tribunals, were probably business centers. The buildings must have served largely for the display and selling of wares, but also as gathering places and for shelter during heat and rain. The pre-

dominantly commercial aspect probably applies to the cryptoporticus as well, which might have served for the storage of wares displayed and sold on the floor above. The mural paintings in the Julian Basilica's cryptoporticus suggest that at one time it may have served as a cool retreat, for which its close proximity to the agora would have made it particularly suitable. As monumental entrance, as meeting place and mart, as sculpture gallery and depository of inscribed public documents, the twin basilicas served Corinth for over three centuries. In architectural annals they are unique.



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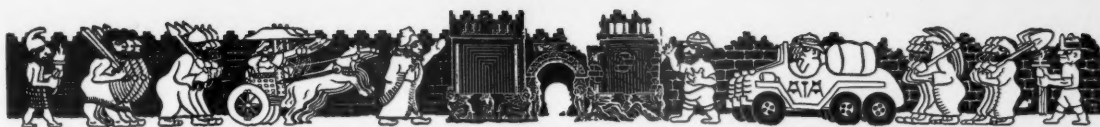
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ARCHAEOLOGICAL NEWS

Obituaries

We note with regret the death of the following well known figures in the archaeological world:

H. DE VRIES of the University of Groningen, whose work on radiocarbon dating has been of the greatest importance (December 23, 1959);

SIR LEONARD WOOLLEY, best known as the excavator of Ur of the Chaldees, author of many archaeological works (February 20, 1960, at the age of 79);

ADOLF SCHULTEN, who excavated at Numantia and other sites in Spain during the early years of this century (March, 1960, at the age of 89);

PRENTICE DUELL, whose work took him to Egyptian, Greek and Etruscan sites (April 16, 1960, at the age of 65).

Archaeology in Arkansas

We note with pleasure the recent formation of the Arkansas Archeological Society "for the purpose [we quote from its Constitution] of uniting all persons interested in the archeology of Arkansas; for the study and preservation of Indian prehistory; and for fostering and encouraging a con-

structive public attitude toward the archeology of the state."

S. C. Dellinger, Curator of the University of Arkansas Museum, is President; Charles R. McGimsey is Secretary and Editor of the *Newsletter*, which is to appear ten times a year. Out-of-state members are welcome (\$2.00 a year for active membership; other types of membership offered). Those interested may write to: Arkansas Archeological Society, University of Arkansas, Fayetteville, Arkansas.

Weatherproof Digging

During our visit to Denmark in the summer of 1959, Dr. Ole Klindt-Jensen of the National Museum, Copenhagen, told us of an interesting new invention which he has been using with great success in digging on the island of Bornholm (see *ARCHAEOLOGY* 11 [1958] 81-86). Plagued by constant rain, Dr. Klindt-Jensen decided that something *must* and *could* be done about the weather. He constructed an "excavation house"—not what is generally meant by the term, a house in which excavators live—but

one in which digging is actually carried on.

As the illustration shows, the structure is semicylindrical in shape and has a door at one end. The ridge pole and the basal frame are of wood, the rest of the supporting members are bands of light metal, and most of the plates are of a sort of perspex which transmits eighty-five per cent of the light. In putting up the structure, the plates are placed between the metal bands, which are in two sections bolted together. The house can be put together in an hour and a half, and taken down in only half an hour. All the component parts can be loaded on a truck. Dr. Klindt-Jensen uses an old bus as a place for working and lunching, and on the roof of this he packs and transports the sections of the house.

As can be seen in the illustration of the interior, there is plenty of light inside for working and for photography. If used for excavating in cemeteries, as Dr. Klindt-Jensen has done, the structure is quite ideal. It is also suitable for excavation where the area covered is small and delicate digging is required.



"Excavation house" set up at the cemetery of Slusegård, on the island of Bornholm, which belongs to Denmark.



Inside the excavation house. Two graves can be seen. The one at left has been excavated; that at right is still covered.

Fellowships for 1960-1961

Fellowships have been awarded to a number of scholars working in archaeology and related fields.

The John Simon Guggenheim Memorial Foundation has made the following fellowship grants:

FRANK E. BROWN, Yale University. Studies in Roman architecture, with special reference to the Forum of Cosa and to the work of Vitruvius.

PAUL A. CLEMENT, University of California, Los Angeles. A study of Attic and South-Italian vase-painting, with special reference to the Nikosthenes Painter and his associates.

A. H. DETWEILER, Cornell University. Studies of the effect of Lombard invasions on Roman architecture.

ALEXANDER ELIOT, *Time Magazine*. Studies of the ancient world, particularly Greece and the Middle East, as spiritual homelands of the Western world.

I. J. GELB, University of Chicago. Studies of the socio-economic institutions of the Mesopotamians of the third millennium B.C.

AGNES KIRSOPP LAKE MICHELS, Bryn Mawr College. A study of the calendar of the Roman Republic.

GEORGE C. MILES, American Numismatic Society. Studies of Arab-Byzantine relations in Greece and the Aegean.

INEZ SCOTT RYBERG, Vassar College. Studies in the history and interpretation of certain Roman panel reliefs of the Antonine period.

Rome Prize Fellowships in Classical Studies have been awarded to RICHARD BRILLIANT, R. ROSS HOLLOWAY and EDWARD C. WITKE.

A scholarship to attend the Summer Session of the American Academy in Rome has been awarded by Eta Sigma Phi, Honorary Classical Fraternity, to MARTHA G. THOMAS of Agnes Scott College.

Memorial to Sir John Myres

A lectureship has been established as a memorial to Professor Sir John Myres, for twenty-nine years Wykeham Professor of Ancient History at Oxford University. The lectures will be, in rotation, devoted to ancient history, archaeology, ancient geography and ethnology of Mediterranean lands.

Sufficient funds have been collected, mainly in Britain, to provide a lecture every other year, but more is needed to ensure worthy publication. It is hoped that friends and colleagues in America, as all over the world, will wish to contribute to such a memorial. Sir John visited the United States frequently, twice as a visiting professor, and worked on material in American collections in cooperation with American colleagues. Contributions, which are tax-deductible, may be made out to the American Trust Fund for Oxford University and sent to Henry Allen Moe, 551 Fifth Avenue, New York 17, N. Y.

Collection at San Francisco State College

On March 31, 1960, San Francisco State College opened an exhibit of an archaeological collection which was donated to this institution on an exchange basis by the Italian Government. The collection represents the result of four years of work on the part of Dr. Andreina Leanza B. Colonna in arranging the exchange.



Three terracotta figurines from Italy. San Francisco State College Collection.

The collection consists of 311 pieces, coming from many of the most important archaeological centers of Italy, and covers a span of time from the Neolithic period to the second century of our era. Terracotta and bucchero pottery, terracotta figurines, glass vessels, bronzes and flint implements are representative items. These were contributed by the museums of Syracuse, Paestum, Naples, Rome (Palatine and Villa Giulia), Florence and Ferrara. Dr. Colonna has arranged the exhibit and is now preparing a permanent catalogue.

In return an interesting collection of

thirty-five pre-Columbian pieces, donated to San Francisco State College in 1958 by Mr. Frank De Bellis, was sent to the Italian Government.

Much of the success of the project is owed to Professor Guglielmo De Angelis d'Ossat, Director General of Antiquities and Fine Arts of Italy, and to Dr. Glenn S. Dumke, President of the San Francisco State College.

To Save Monuments of Nubia

On March 8th the Director-General of UNESCO issued an international appeal for the rescue of the antiquities of Egypt and the Sudan which are threatened by the waters of the new High Dam at Aswan. Members of the United States National Commission for UNESCO, representatives of learned societies, museum directors and Egyptologists met in Washington on March 24th and formed a National Committee for the Rescue of the Monuments of Nubia. The Committee plans to raise money and to serve as a central facility, both for the preservation of such temples as Abu Simbel and Philae and for American archaeological work in Nubia. Officers are: Dr. J. O. Brew, Peabody Museum, Harvard University, Chairman; Drs. Froelich Rainey, University Museum, Philadelphia, and William S. Smith, Museum of Fine Arts, Boston, Vice-Chairmen; and Dr. John A. Wilson, Oriental Institute, University of Chicago, Executive Secretary. The Committee faces a five-year deadline and feels that this is a supreme archaeological challenge of our time.

Research in Guatemalan Lakes

In January of this year Dr. Stephan Borhegyi, now Director of the Milwaukee Public Museum, again led a group to Guatemala, where research was conducted both under water and on lakeshore sites. [Previous expeditions have been recorded in *ARCHAEOLOGY* 10 (1957) 282-283 and 11 (1958) 284-285.] The staff, in addition to Dr. Borhegyi, consisted of Mr. Leo Johnson, photographer; Messrs. Lon Mericle and Verne Burkart, divers; and Mr. Peter Jensen, archaeologist. Several local divers also took part.

The main work of the team took place at Lake Amatitlan, seventeen miles south of Guatemala City. Three sites on the shore were re-surveyed



Mr. Lon Mericle, diver, handing Dr. Borhegyi a specimen which he has just recovered from the lake bottom.



Dr. Borhegyi and skin divers studying a map of Lake Amatitlan. Objects found under water are in the foreground.

and mapped, surface collections were made, and objects previously found were studied and photographed.

Underwater exploration was carried on at a number of points. At Lavaderos the finds included an incense burner top with a reclining jaguar, a clay head which may represent the god Quetzalcoatl, and an incense burner cover in the shape of a flower, with an applied hummingbird sucking the nectar. At Agua Caliente was found a beautiful jaguar-head incense burner cover on an unusual rectangular base. At Zarzal the divers found several Late Classic seated figures holding incense bowls in their laps. At Los Organos, a site explored for the first time, were found various types of censers. The material is essentially Late Classic, but slightly different from that at Zarzal. President Ydigoras of the Republic of Guatemala, who witnessed one of the dives at Los Organos, expressed his interest in the work and promised the establishment of a museum at Lake Amatitlan.

At the Yacht Club site several important Pre-Classic specimens were brought up: jar fragments still showing traces of designs in red; two beautiful Miraflores brown-black ware bowls with fine incisions, and one Sacatepequez-type jar fragment decorated with a tool-indented fillet. At Bahia a small, crude Late Classic bowl was found.

Less intensive research was also carried on at other Guatemalan lakes; the main effort was concentrated on Amatitlan. 208 specimens in all were recovered from the various sites men-

tioned above. All of these, except a few reserved for ceramic and mineralogical analysis, were deposited in the Archaeological Museum of Guatemala.

Back Issues Wanted

Subscribers may recall that \$1.00 is offered for scarce back numbers of *ARCHAEOLOGY*. At present the Institute is particularly in need of copies of the Spring 1959 issue (Vol. 12, No. 1) and will appreciate receiving any which readers may be able to part with. Other out-of-print issues are: Vol. 1 (1948), Nos. 1, 2, 4; Vol. 2 (1949), Nos. 1, 4; Vol. 3 (1950), No. 2; Vol. 4 (1951), Nos. 1, 2, 4; Vol. 5 (1952), Nos. 2, 3; Vol. 7 (1954), Nos. 1, 3; Vol. 9 (1956), Nos. 1, 3, 4; Vol. 10 (1957), No. 1. Please send any available copies to the *ARCHAEOLOGICAL INSTITUTE OF AMERICA*, 5 Washington Sq., North, New York 3, N. Y.

Dating by Thermoluminescence

A new method of dating pottery which promises to be exceedingly useful and to supplement the Carbon 14 dating method was announced to the American Association for the Advancement of Science by Drs. George C. Kennedy and Leon Knopff of the University of California Institute of Geophysics at Los Angeles.

Dr. Kennedy, who kindly furnished us with an account of the method, wishes to emphasize that it has not been perfected, and that he and his colleague are not yet prepared to test samples or to give further information

on the use of this interesting technique.

The notion that ceramic material, lava flows and other objects which have been heated in the recent past could be dated by measurement of thermoluminescent glow is due to suggestions by E. Houtermans and F. Daniels. Attempts to examine the practicality of dating by measurement of thermoluminescent glow have recently been made.

Radiation, either by alpha, beta or gamma rays, may displace certain electrons or groups of electrons from their stable orbits. These electrons may take up metastable positions among the atoms, in electron traps, or f centers. There they may remain, trapped indefinitely, or fall back to their stable positions due to thermal agitation of the atom. As each electron falls back into a stable position, it emits a photon of light. This phenomenon is called thermoluminescence. Thus, when an object is heated to a temperature of 400°C or 500°C, all electrons in traps fall back into their stable sites and thermoluminescent glow is emitted.

Once an object has been heated and its electrons have emitted their thermoluminescent light, no further light may be obtained by reheating after a relatively short time. Consequently recently fired ceramic ware or freshly cooled lava, which have all electrons in stable sites, should show no thermoluminescence.

All ancient lava flows and ancient ceramics from archaeological sites show thermoluminescent glow. Radio-

active decay of uranium, thorium and certain isotopes of potassium, present in all earth materials, is accompanied by emission of alpha, beta and gamma rays. These rays, striking through the earth materials that contain them, will displace electrons from their stable sites into unstable orbits or traps, and thermoluminescent energy is stored in the particular materials involved. This energy is proportional to the total radiation dose absorbed by the material.

In practice, the thermoluminescent glow curve of an object is determined in the following fashion: A portion of the object to be dated is powdered, and the powder is carefully spread on a hot-plate. The hot-plate in turn is enclosed in a light-tight box with such geometry that the light given off by the sample is observed by a photomultiplier tube. The sample is then rapidly heated. The output of the photomultiplier tube and the surface temperature of the sample are recorded and plotted against each other. The resultant curve, showing light emitted as a function of the sample temperature, is called a thermoluminescent glow curve. Next, the radioactivity of the object is determined in alpha and beta counters. For any material the amount of thermoluminescent light, divided by the mean radioactivity, is proportional to the number of years that have elapsed since the object was last heated. Certain other corrections are necessary before this may be translated into an absolute date. Various materials range in sensitivity to radiation. The sensitivity to radiation is determined by annealing the sample at high temperatures and subjecting it to an artificial dose of x-ray radiation. The new glow curve, determined from a standard, artificial dose of radiation, is a measure of the sensitivity of the materials to radiation damage.

This method of dating is applicable only to materials which have undergone no chemical alteration or recrystallization. Lava flows which have suffered recrystallization, or pottery which has been placed in limey ground, where salts, limestone, etc. have deposited on the pot, cannot be dated by this method, as thermoluminescent glow is associated with recrystallized materials regardless of their age.

Many problems remain to be solved before dating by thermoluminescence can become an established procedure. Unfortunately, other kinds of damage, apart from radiation, will displace electrons into traps and cause thermoluminescent light. A small amount of glow is generated in a sample by the mechanical damage of grinding in sample preparation. A certain amount of glass is formed in ceramic ware as it is initially fired in a kiln. If this glass later devitrifies, spurious signals are obtained. Results to date suggest that fewer problems are associated with the dating of recent lava flows by use of thermoluminescence than are associated with the dating of ceramic ware.

Solomon's Temple

Continuing demand for copies of "A Reconstruction of Solomon's Temple," which appeared in *ARCHAEOLOGY* 5 (1952), has led to the reprinting of this interesting article. It is eight pages in length and lavishly illustrated with pictures of the Temple model constructed by Mr. E. G. Howland in accordance with the results of Prof. Garber's research.

Copies may be obtained at 35 cents each from the *ARCHAEOLOGICAL INSTITUTE OF AMERICA*, 5 Washington Square North, New York 3, New York.

Journal Resumes Publication

The *Plains Anthropologist*, quarterly journal of the Plains Conference, will resume publication with issue No. 9, scheduled for release in May, 1960. The Plains Conference is an informal organization of archaeologists, ethnologists, linguists, physical anthropologists and other scientists whose research interests center in the Plains area of the United States, Canada and the bordering tiers of states and provinces. The Conference has met annually since 1951.

The journal was inaugurated in 1954 as the successor to the Plains Conference Newsletter, begun in 1947. Now reorganized, each issue will run to approximately fifty pages.

Subscription rates will remain \$2.00 during 1960. Correspondence should be addressed to James B. Shaeffer, Editor, *Plains Anthropologist*, Research Institute, North Campus, University of Oklahoma, Norman, Oklahoma.



Buddha in Cleveland

A recent acquisition by the Cleveland Museum of Art is this charming bronze Buddha, 8¼ inches high, of Siamese origin. It dates from the seventh century (Mon-Dvaravati period). The statuette is part of the Norman O. Stone and Ella Stone Memorial Collection (58.334).

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REVIEWS OF RECENT BOOKS

PECOS, NEW MEXICO: *Archaeological Notes*, by A. V. KIDDER. xx 360 pages, 72 figures, 8 tables. Phillips Academy, Andover, Massachusetts 1958 (Papers of the R. S. Peabody Foundation for Archaeology, Vol. 5) \$7.50

The ten field seasons at Pecos, between 1915 and 1929, were unique in North American archaeology: among other things, they set new standards in field techniques, in ceramic chronology and in comprehensiveness of approach; the seven previous volumes reporting the work are models of their kind; an impressive number of still potent ideas emerged from the field work and the field conferences; and some of our best archaeologists of the last few decades "grew up" at Pecos.

Few would have the courage to attempt a major report summarizing work finished nearly 30 years before, and probably none but Kidder could have made it a fitting climax to the volumes that preceded it. No title could be less justified than "Archaeological Notes." This is a full-dress report on the domestic and religious architecture of one of the Southwest's largest pueblos, with a wealth of additional discussion of the history and function of kivas, and of the growth, flowering and decline of Pecos. The text is beautifully illustrated and is interspersed with penetrating and enjoyable reflections and reminiscences. There not only comes to life under the archaeologist's pen—as should every ruin—the pueblo itself, but the field procedures of the expedition, and some of the problems of Southwestern excavation receive much fuller attention than is commonly the case.

Pecos was founded about 1300, on a low mesa near the Pecos River, by people who concurrently abandoned several nearby small villages. It grew from a cluster of one-story houses to a great quadrangle of three- and four-story apartments surrounding a plaza,

with a large southern structure standing apart, both plaza and periphery dotted with round, below-ground ceremonial rooms, the whole surrounded by a low wall. When Coronado visited Pecos in its heyday in 1540, its population was about 2000; although repeatedly threatened by nomadic tribes from the Plains to the east, it thrived as a rich farming town and trade center. Its first Catholic priest was probably installed by the Spanish soon after the submission of Pecos to Oñate in 1598, and a succession of mission buildings added to the impressiveness of the town. The general appearance of Pecos in 1700 is beautifully shown in two restoration drawings by S. P. Moorehead; they are valuable adjuncts of the plans and architectural sections.

The population of Pecos had dropped to 450 by the year 1750 and to one-third of this by 1790. In 1838 some 20 survivors left their ancestral home forever, finding refuge in the pueblo of Jemez. Kidder is at his best in discussing the many possible causes of this decline; evidence from history and recent ethnographic studies is shrewdly appraised and his evaluations and conclusions are simply and convincingly stated. Like any archaeological reconstruction, this one has gaps and doubtful links in the evidence, as Kidder is always frank to point out; but the story he pieces together is one of great importance to everyone concerned with the life of non-industrial peoples of the past, or with the impact of current expansions of "civilization" into regions of the world previously left to follow their traditional ways.

The changes that have taken place in our knowledge of the prehistoric and early historic Southwest in three decades (and our attitude towards it, too) could hardly be better illustrated than by a comparison of the present volume with Kidder's 1924 masterpiece, "An Introduction to the Study of

Southwestern Archaeology." It is a tribute to the author that both represent the best in archaeological writing in their respective periods—one organizes a vast, half-known area into geographical units and characterizes them in terms of pottery styles and sequences, and architectural traits; the other illuminates the entire life of a people, using all the data from intensive digging, supplemented by the insights of the whole range of behavioral sciences. There is no doubt that *Pecos* will be another landmark in the literature of American prehistory.

RICHARD B. WOODBURY

University of Arizona

THE LOST CITIES OF AFRICA, by BASIL DAVIDSON. xviii, 366 pages, 2 figures, 20 plates, 5 maps. Little, Brown and Company, Boston 1959 \$6.50

This book comes at a very opportune time. With the political awakening of Africa goes an increased interest in its past, and until now information on the history and archaeology of the continent has been hard to find. Buried away in little known journals and out-of-print books, the facts have been elusive, and many erroneous theories as to the events of past centuries in Africa have been current during the last fifty years or so. These theories range from the claim that all Africa prior to the coming of the Europeans was sunk in savagery to the no less erroneous one, now popular in some circles, that Africa originated most of the elements of civilization.

Davidson now gives the facts that permit a proper judgment of Africa's place in the world to be made. He shows that its history can be reconstructed by a careful mingling of the disciplines of archaeology, history, anthropology and linguistics, and he describes the main cultures from Meroe, the earliest indigenous civilization

known, down to the builders of the stone ruins of Rhodesia.

The book is evidence of very wide reading and intelligent use of the material but suffers from a rather uncritical attitude, which gives rise to certain wrong emphases or, in some cases, mistakes. On page 12 it is implied that the people of Arkell's "Early Khartoum" were the first to make pottery, a hazardous assumption on present evidence; page 62, nothing is said to indicate that many scholars are extremely critical of the work of Mrs. Meyerowitz and that material collected by her must be examined most carefully before it can be used; on page 70 the statement "Egyptian coins of the thirteenth dynasty are said to have been found in Madagascar" is quite inaccurate—there were no Egyptian coins of the XIIIth or any other dynasty until the time of the Ptolemies, and one would like to know who the anonymous provider of this information was; page 177, it would not be detrimental to the great contribution Gervase Mathew has made to East African studies to admit that he was not the first, as is implied, to discover Sanje ya Kati and Sango Mnara.

Such errors do not detract from the very real value of the book. It is a pioneering effort in a comparatively new field of archaeological endeavor and will be used for many years to come.

P. L. SHINNIE

University College of Ghana

GREEK PINS and their Connexions with Europe and Asia, by PAUL JACOBSTHAL. xvi, 250 pages, 650 figures. Oxford University Press, New York 1956 (Oxford Monographs on Classical Archaeology, Vol. 3) \$26.90

An excellent example of the best results of highly specialized research, this volume is impressive for its erudition and its inclusiveness. Dr. Jacobsthal, whose interests were manifold, begins by saying: "The reader may ask, and I have often asked this question myself, if I ought to have spent so much love and labour on pins. . . ." He goes on to explain that the study was begun during the war, when conditions for research were difficult, as most antiquities had been packed away. The answer to his question is in the affirmative, for by close study in

this narrow field, the author managed to extract a great deal of interesting information.

The book has two main sections: "Greek Pins seen from Greece," and Greek Pins and their Connexion with Abroad, Chiefly Europe." The material contained in both parts provides as thorough a treatment as can ever be hoped for.

In one respect only can the volume be criticized, and that is its organization. It is one of the most difficult books to use that this reviewer has ever seen. True, there are concordances and indexes, but still one cannot help wishing for a few more fingers on the left hand to hold open various pages at one time.

A monument to his scholarship, this volume was the last great work achieved by Jacobsthal.

G.D.W.

THE TOMBS OF ST. PETER AND ST. PAUL, by ENGELBERT KIRSCHBAUM, S.J. Translated from the German by JOHN MURRAY, S.J. 247 pages, 44 plates (4 in color), 3 figures. St. Martin's Press, New York 1959 \$7.50

This remarkable book, a capable and readable translation of *Die Gräber der Apostelfürsten*, is chiefly an analysis and restatement of the results which the author and his colleagues achieved in the Vatican excavations, but it further contains the author's conclusions from concurrent studies at S. Paolo in Via Ostiensis and S. Sebastiano. Thus the volume is a well rounded history of the greatest of all the Roman Church's relics.

The author goes beyond the official *Esplorazioni sotto la Confessione di San Pietro in Vaticano* (Vatican City, 1951). There is a vast arsenal of sources and parallels, which in many cases have resolved apparent contradictions in the evidence and other historical difficulties. This apparatus does not, however, weigh down the narrative unduly.

Among the results of general interest is the fact that the very involved history of the works around and above the apostolic graves, including important items of pre-Constantinian date, is now understood. The graves were included in the respective Constantinian basilicas, but at the threat of the Valerian persecution the heads, and presumably some bones, were taken to

the first "catacomb" to have that name, on the Via Appia, where Constantine built the Basilica Apostolorum (later the site of S. Sebastiano). It is indicated that bones of St. Peter were, in part at least, returned to the original burial site. Each of the heads was returned as a separate relic to a shrine in the appropriate basilica, but by the period of the Saracen sack of Rome in 846, the heads had been brought to the Lateran, where they now are. At the Lateran very little now remains of the heads; at St. Peter's there is almost nothing left to represent the original grave, and not much more would be expected at S. Paolo, where, however, the archaeological work has not been carried very far.

A more technical interest attaches to the appearance of the transept in Western church architecture at Old St. Peter's, where it was literally a hall with the marker above St. Peter's grave as its shrine, and at first (surprisingly) no permanent altar. About A.D. 600 Gregory the Great built an upper level in the apse in order to install an altar above the marker (*Memoria apostolica*). In so doing, by arranging access to the Memoria from the rear, he was instrumental in creating a type of annular reliquary crypt which was widely imitated in the early Middle Ages. The date of completion of Old St. Peter's, formerly given as 326, must apparently be advanced, for in 354 the festival of the Apostle was celebrated at the Basilica Apostolorum, whereas the much smaller, older Constantinian S. Paolo was already finished and serving its purpose.

KENNETH JOHN CONANT

Harvard University

SOUTHEASTERN INDIANS. Life Portraits—A Catalogue of Pictures, 1564-1860, by EMMA LILA FUNDABURK. 136 pages, 354 illustrations, 1 map. E. M. Fundaburk, Publisher, Luverne, Alabama 1958 \$7.50

Wherever they work, archaeologists make valuable use of such information as they can acquire of the recent successors of the ancient peoples whose remains they are unearthing. Without such information the effective interpretation of archaeological details would be enormously more difficult. This has been particularly true in the New World, where many practices and objects otherwise inexplicable were ob-

served and recorded by early European explorers and conquerors. *Southeastern Indians* is the most comprehensive volume of early pictorial records of the Indians of a region ever attempted, and it will be welcomed by everyone interested in the Eastern United States.

Miss Fundaburk has brought together a fine assortment of scenes (as well as portraits) of Indian life and has added extensive notes from the writings of both early observers and recent scholars. The pictures are well reproduced although some are inconveniently small. The collection forms a fascinating gallery of the Indian as seen by the white man. Not only are the more familiar artists represented (64 pictures by De Bry, 96 by Catlin), but others less well known—Christopher von Graffenreid, captured by Indians in North Carolina in 1711; Charles A. Leseur, who traveled on the Mississippi in the 1820's and 1830's; and many others.

Either to browse through for enjoyment, or to study carefully for its many clues to early Indian culture, this book is unequalled. Although it lacks a discussion of the historical and cultural position of the many tribes represented, and groups its pictures by date and artist rather than in some more instructive manner, the book is a splendid source of pictorial information.

RICHARD B. WOODBURY

University of Arizona

A MANUAL FOR NEANDERTHALS, by H. MEWHINNEY. xii, 122 pages, 20 figures. The University of Texas Press, Austin 1957 \$3.50

This little book is stated to be "a treatise on flint flaking" or "a guide to flint craft at any cultural level." It begins with a chapter on the Stone Age, and in another chapter the author discusses the nature of flint, percussion and pressure flaking, methods of barbing and notching, etc.

"Flint making," according to the author, "is very easy and everyone can make it." First of all, "It is simpler to buy a steel hammer at the hardware store than to hunt among the river gravels for quartzite pebbles. . . . Get a ball-peen hammer and strike with the small end of it." And for pressure flaking: "I recommend a nine-penny nail mounted in a wooden handle as being the easiest to acquire and much

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the most durable. It will outlast a dozen bone or buckhorn tools" or a "beer-can opener" or "an ordinary iron vise." In addition to these tools he suggests "plate glass" as raw material, and to pay a lapidary for preparing blanks.

The recommendations of Mewhinney are nothing but sheer mockery of scholars who work for years in an attempt to reproduce prehistoric man's technique of flint-flaking. Mewhinney's advice leads everybody astray; "serious experimenters" will not reproduce the technique but falsify it and will never understand it. This *Manual for Neanderthals* is a manual for fakes and falsification of antiquities. Not only professional archaeologists will regret such a book but non-professionals, too, if they are serious and honest experimenters and want to understand the method of flint flaking. Prehistory is a science; modern methods reproduce the flint flaking technique of various prehistoric assemblages using the same material (flint and not plate glass) and quartz pebbles, bone or wooden mallets for percussion and for flaking.

It is to be regretted that the author is not acquainted with experiments made by scholars such as Coutier, Haage, Breuil, Leakey and Bordes. Archaeologists familiar with such experiments know how to distinguish between free flaking and that done by using a hammer and a punch.

M. STEKELIS

*Hebrew University
Jerusalem*

THE MYTH OF ROME'S FALL, by RICHARD MANSFIELD HAYWOOD. 178 pages, 1 map, frontispiece. Thomas Y. Crowell Company, New York 1958 \$3.50

Writers and speakers, informed and uninformed, have long assigned reasons for the "fall" of Rome. Gibbon and some later rebel Christians have blamed Christianity, but one finds it difficult to believe that they convinced even themselves. A late, hearty opponent of the New Deal contended that social security and other New Deal programs caused it. Let us add to these, from the ranks of scholars, exhaustion of the soil, malaria and extermination of the best stock (Ausrottung des Bestens).

Some historians have pointed out that it is somewhat doubtful whether the "fall" actually took place. The date, 476, has been used sparingly in history textbooks for a generation. It is quite evident that, in the ordinary sense, Rome did not "fall" as did Babylon, Nineveh and the Achaemenid Empire. In what sense, then, if any, did Rome fall?

This book addresses itself carefully and calmly to the question and produces the evidence we have that bears upon the topic. It is a well written book, one written to be read—not just used. The author clearly has a mastery of the historical materials, but this is not so unusual since most competent historical scholars have that. What is unusual here is something that can only be called sanity. The calm use of

reason—the evident lack of impulsion to prove a case—the freedom from panting and perspiration—these are indeed becoming all too rare in all kinds of writing.

The fall of Rome, as generally understood, is a myth. In a real sense, the twelfth century is only the second century a thousand years later. Among many fine touches, one is most grateful for the author's discerning remark that Rome has long suffered from the tendency of some German scholars to attribute all creative genius to Greeks—and Germans. The observation is well founded.

The reading of this book is a delightful and rewarding experience and the author is to be congratulated. Let us hope that this excellent work is only the first of many historical essays of this type, written for the educated and discerning reader.

THOMAS A. BRADY

University of Missouri

BIBLICAL ARCHAEOLOGY, by G. ERNEST WRIGHT. 288 pages, 220 figures, 8 maps. Westminster Press, Philadelphia 1957 \$15.00

Despite its title this is not a blow by blow account of Palestinian archaeology, even for biblical times. Wright's purpose in writing this book was to supplement the biblical account by background information acquired through archaeology. Actually Ernest Wright—in his dual role as Old Testament scholar and archaeologist—was just the person to write this book.

With biblical history serving as the framework, he takes us chronologically from the earliest patriarchs up through the reigns of Saul and David on to the destruction of Judah. He ends by describing Palestine during the time of Christ and the subsequent establishment of early Christian churches around the Mediterranean. Throughout, he deftly weaves in archaeological materials that aid in understanding the environment and customs of the "chosen people," their neighbors and the world of their day.

The book is simply written; clear type and attractive format add to the ease of reading. Additional reading suggestions are given at the end of each chapter. Over two hundred photos and line drawings scattered through the text accentuate Wright's verbal description of archaeological evidence.

The maps were taken from the *Westminster Historical Maps of Bible Lands*. In the taking, they were changed from color to black and white, and also substantially reduced in size. The results are frustrating to the reader. Some of the names are impossible to read without a magnifying glass, and certain boundary distinctions have been lost.

This volume would be excellent bedside reading except for its quarto size. The price will act as a deterrent to private purchase but we can hope that it will be accessible in public libraries. The contents are bound to hold the interest of all who are acquainted with the Bible, and give them a much clearer picture of the milieu in which biblical events took place and were written down. In addition, all the little touches of daily life—how the people lived, dressed, what they ate, what languages they spoke—are here. Incidentally, I blushed to find that though I should have known better, I had been guilty—apparently along with many others—of mentally clothing biblical people in modern Arab dress.

LINDA BRAIDWOOD

*Oriental Institute
University of Chicago*

THE CULTIVATION AND WEAVING OF COTTON IN THE PREHISTORIC SOUTHWESTERN UNITED STATES, by KATE PECK KENT. 275 pages, 143 figures, 12 maps, 23 charts, 14 tables. American Philosophical Society, Philadelphia 1957 (Transactions New Series Vol. 47, Part 3) \$4.00

This excellent monograph is a compilation and analysis of a vast quantity of data on cotton textiles that have been preserved through the centuries in the dry climate of the Southwest. Most of the nearly one thousand specimens studied are dated between A.D. 1000 and 1400.

Starting with a brief history of the cotton plant, the author discusses the growing of cotton and its preparation for weaving, drawing mainly on ethnological data. The clear description of looms and their mechanics includes the evidence for the loom in prehistoric times. The main topics are: 1) reconstruction of weaving processes; 2) the origin and development of the loom-and-cotton complex in the Southwest; 3) presentation of hitherto unpublished data on individual speci-

mens. Illustrations are abundant and generally good.

Since Mrs. Kent could not describe all prehistoric Southwestern textiles, and since others are constantly being excavated, we can look forward to her continuing work in this field. One of the important functions of this monograph will be to emphasize the value of textiles in archaeological research and to encourage others in their study.

This monograph is one of the most important of recent years on Southwestern archaeology, and will prove an indispensable reference for all students of primitive art and technology.

KEITH A. DIXON

LE MAGRIB CENTRAL A L'EPOQUE DES ZIRIDES, *Recherches d'Archéologie et d'Histoire*, by L. GOLVIN. 259 pages, 23 figures, 20 plates, 2 tables. Arts et Métiers Graphiques, Paris 1957 (Gouvernement Général de l'Algérie, Sous-direction des Beaux-Arts, Missions Archéologiques)

While archaeology may have the narrow meaning of a specific discipline whose purpose is to carry out and interpret excavations of ancient sites, it may also be understood as an attempt to reconstruct the varying human and natural elements of the landscape of a given area. The book under review has the latter aim in mind.

The specific geographical area of the investigation is first introduced—the zone of high plateau in Central North Africa, corresponding more or less to the inland of modern Algeria—and the people who are the main actors of its history during the tenth, eleventh and twelfth centuries—the Berber tribes which make up the Sanhaja and the Zanata.

The second chapter is devoted to the formation and development of the power of the Zirid dynasty. After disentangling the complicated dynastic and tribal battles and successions, the author gives an excellent analysis of the physical and economic situation of the country in the tenth century, with a few pages on the population and its religious affiliations.

Next the area is studied in the eleventh and early twelfth centuries, under the Hammadid branch of the Zirid family. Particular attention is given to the new Arab invasions, the resulting decadence of the central pla-

teaux and the rise of the North African coast as a center of urban and political development.

The last chapter is a general survey of the society and arts of central North Africa in the tenth-twelfth centuries.

In conclusion the author shows the significance of this first Berber dynasty which brought to central North Africa many predominantly Oriental elements of Islamic civilization already found for several centuries in Tunisia or Spain. Whether these features came directly from the Orient (Egypt or farther east) or through the older Muslim centers in North Africa cannot yet be fully determined, but the historic importance of the Zirids seems to be that they participated in the unification of culture in lands conquered by the Muslims. The actual impact of the dynasty, however, was greater in surrounding areas than in the center of its power. Nomadic invasions in the eleventh century and the stronger prestige of Hispano-Mauresque and Tunisian centers, together with the development of coastal areas led, after the fall of the dynasty, to the abandonment of major urban centers and to the return of the high plateau area to its former pastoral activities.

The importance of this book goes beyond the complex period and limited area with which it deals. It shows the fruitful results to be reached by considering archaeological and literary documents together, rather than by splitting them into chapters on history, society and art.

OLEG GRABAR

University of Michigan

THE ETRUSCANS, by RAYMOND BLOCH. 194 pages, frontispiece in color, 41 figures, 79 photographs. Frederick A. Praeger, New York 1958 (*Ancient Peoples and Places*, edited by Glyn Daniel) \$5.00

The study of Etruscan civilization is riddled with problems because of the scarcity of archaeological and literary material. Who the Etruscans were, whether they migrated from Lydia in Asia Minor, whether they were indigenous people or Orientals who came to Italy before the Indo-European invasions, these are questions not easily answered. Raymond Bloch summarizes these possibilities without analyzing their validity, although he himself favors the Oriental migrations. Of fur-

ther difficulty is the language, whose alphabet has still not been deciphered and whose words and syntax have not been conclusively related to an Indo-European or an Oriental basis. The paucity of Etruscan writings is an additional hindrance. Unable to use Etruscan literary sources, the student has to resort to Greek and Roman texts for a written account of Etruria.

Etruria was an active, expanding empire, gaining full power in the seventh century, dwindling in the fifth century and deteriorating until it reached the decadence described by Roman writers. Bloch delineates these phases of the civilization, relating religious beliefs and artistic production to the historical development. Aside from internal changes, Etruria is placed within the context of the Mediterranean world. Etruria fought with Rome for control of the Italian peninsula until she was completely subdued, but from Etruria certain customs, such as the gladiatorial fights, passed into Rome. Outside the peninsula there was an active trade between Etruria, Greece, Carthage and Sicily. One wishes that the author, when dealing with Etruscan art, had specified more closely the influences of the Mediterranean world on Etruria. Although he distinguishes between the Greek humanistic and the Etruscan supernatural mystic spirit, he does not consider the differences between Etruscan and Greek artistic style.

Mr. Bloch gives a vivid account of a difficult subject, but he tends to be

repetitive rather than lucid and to overemphasize the uncertainties, the mysteries of Etruscan studies. An adequate collection of plates is given at the end of the text, even though a poor photograph of such a major work of Etruscan art as the Arezzo chimaera is reproduced. Nevertheless, Mr. Bloch has written a good introductory compendium of Etruscan culture.


EUNICE MYLONAS

Brooklyn Museum

JERUSALEM, by MICHEL JOIN-LAMBERT, translated by CHARLOTTE HALDANE. 223 pages, 131 figures, frontispiece in color, 3 maps. G. P. Putnam's Sons, New York 1958 \$5.95

First in a projected series, *Ancient Cities and Temples*, a competent scholar presents in popular form a picture of the Holy City from prehistoric times until the fall of the Latin kingdom to Saladin. There is a final paragraph about subsequent events. Though some of the illustrations are recent, there is no reference to the city under the British mandate or its present divided state.

Using some of the best available sources, the author has given a fascinating account. After an introductory section on the site, the story is treated under the heads *Hebrew Jerusalem*, *Christian Jerusalem* and *Moslem Jerusalem*. What makes the book most attractive are the superb illustrations, including ancient and mediaeval



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sketches and maps and coming down to the uncovering of the Lithostratos by the Sisters of Zion and the excavation and construction at Dominus Flevit by the Franciscan fathers.

The translation from the French is well done. There are a few minor inaccuracies. The renowned professor Edward Robinson is called a pastor (page 11). The foundation of the American Schools of Oriental Research "at Baghdad and Jerusalem" is placed "between the two world wars, from 1919 to 1939" (page 12). The school in Jerusalem was founded in 1900 and the one at Baghdad in 1922. Ain Karim is located "on the coast some six miles south-west of Jerusalem" (page 18). Those who have visited Ain Karim think of it as a suburb of Jerusalem, some thirty miles from the coast.

One may wish that the book had an index. On the whole, however, it is excellent, well worth the cost. Those who know Jerusalem may enjoy it immensely; those who are interested in the city but have not been there may get from it an understanding and appreciation of its charm. The volume is worthy of high recommendation to anyone who wants to know more of the Holy Land or who is contemplating a visit to the Middle East.

O. R. SELLERS

McCormick Theological Seminary

WITH PAUL IN GREECE, by ROBERT S. KINSEY. 203 pages, 16 plates. Parthenon Press, Nashville, Tennessee 1957 \$2.50

There are real interest and value in this account of the Greek cities visited by Paul, as they are now and were then, and in the accompanying analysis of the related epistles and the collection of facts about ancient culture illustrating aspects of the life of the early church. The archaeological material seems generally reliable and more abundant than will be found elsewhere in equally convenient compass, although the statements about Classical culture, particularly religion, are often less accurate.

Many will find the style disappointing. It is in "down-to-earth" language, inspired by the challenge to "each generation to re-think and to re-phrase the glorious story of redemption"—in the

same spirit as many recent successful translations of classics in modern vernacular and journalistic treatments of archaeology. But this is a delicate business and there is a positive danger of giving the "common man" only an illusion of understanding, without giving him the real substance to understand. The style of this book, while often fluent and fresh, is also often woolly and formless; sometimes it probably distorts the meaning of the New Testament writers by over-enthusiastic application of the principle. These criticisms, of course, apply to a whole genre of contemporary writing, and this particular book is in large part redeemed from the sin of its style by its content.

ROBERT SCRANTON

Emory University

DENMARK BEFORE THE VIKINGS, by OLE KLINDT-JENSEN. 212 pages, 16 figures, 73 plates. Frederick A. Praeger, New York 1958 (Ancient Peoples and Places, edited by Glyn Daniel) \$5.00

For a quarter of a century Shetelig's *Scandinavian Archaeology* was the main source of information in English on the prehistory of Northern Europe, but it soon became obsolete. In recent years the Anglo-American public has been given at least three books about the antiquity of one of the Scandinavian countries, Denmark. One of these books is written by an active worker in the field of Danish prehistory—Dr. Klindt-Jensen, a curator in the prehistoric department of the National Museum in Copenhagen. But his professional training does not imply that *Denmark before the Vikings* must be a heavy textbook on this complicated subject. On the contrary, it is easy to read and remarkably well illustrated. It gives an outline of prehistory from the earliest distinguishable traces of man in Denmark, at the end of the Upper Palaeolithic era, until and including most of the first millennium of our era. Naturally no author can treat periods with which he has been personally less concerned in the same way as his special topics. For Dr. Klindt-Jensen these are the Iron Age periods, about 500 B.C.—A.D. 800. In the chapters on the "Pre-Roman" and "Roman" periods, and on the "Dark Ages," the author's excavations on the island of Bornholm in the Baltic are

rather strongly emphasized—and sometimes his personal interpretations too. In this reviewer's opinion, the author is fully justified in giving only brief and rather superficial chapters on the Pre-Neolithic Stone Age. But the result is that about 8000 years of the 11,000 to be treated are handled in 20 pages out of 130. The fact that Danish *flække*, "blade," has been translated as "flake" may cause some confusion. A few of the many place-names have been misspelled in the printing, but they will be easily recognizable to any reader familiar with finds from, e.g., Ertebølle ("Eterbølle").

This book is, of course, not intended for the specialist. But perhaps even the general reader who attempts to learn more about Danish prehistory through other works will be slightly surprised to find that the problems are more numerous and more intricate than he might have suspected from Dr. Klindt-Jensen's somewhat dogmatic and, in its general views, rather conventional book. But he will be grateful for an easy introduction, nicely told, with plenty of interesting information about a fascinating series of splendid finds recovered from Denmark's soil.

CARL-AXEL MÖBERG

*Archaeological Museum
Göteborg, Sweden*

ERCOLANO, I NUOVI SCAVI (1927-1958), by AMEDEO MAIURI. Text, vol. I, vii, 508 pages, 430 illustrations in text, 40 plates. Instituto Poligrafico dello Stato, Rome. 1958 60,000 Lire

The appearance of this stately publication is an outstanding event in this archaeological age. The exceptional position of Herculaneum is a matter of common knowledge. After a half-century of suspended life, the official excavations were renewed in 1927, interrupted by World War II, and resumed in 1952. The preparation of this publication had been nearly completed by 1941; it now includes a more adequate presentation of the zones to east and south of the previously excavated area.

The present volume treats of the topography of the city and its building industry, with a detailed publication of all the public and private edifices discovered up to now, and a discussion of the special characteristics of



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GREEK PAINTED POTTERY

by **R. M. COOK**

The first systematic study of this art form in over fifty years, inevitably the standard work on the subject, by the Laurence Reader in Classical Archaeology of Cambridge University. 416 pp., 56 halftones and 50 drawings, 6x9, \$12.50.

THE GREAT PALACE OF THE BYZANTINE EMPERORS

edited by **DAVID TALBOT RICE**

The subject of the cover story of *Archaeology* for December, 1959, this magnificent and important volume is published for Edinburgh University Press in the United States by Quadrangle Books, Inc. 228 pp. text, 105 plates, figs. and plans, 9 3/4 x 12, \$25.00.

MASTERPIECES OF BYZANTINE ART

edited by **DAVID TALBOT RICE**

A special hardbound edition of the Catalogue of the 1958 International Festival Exhibition (the greatest display of Byzantine masterpieces of this century), printed on heavy paper by Edinburgh University Press. 96 pp., 17 plates, \$3.00.



QUADRANGLE BOOKS, INC.
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Herculaneum as regards construction, architecture and city-planning. A second volume is to contain the more detailed description of the wall-decorations and the pavements, the wood-work, the art products and the various forms of furniture and household utensils; also, in an appendix, the principal inscriptions.

For specialists, the distinguished author, his able technical staff and the publishing house, require no introduction; but this publication, as Maiuri says, should have a broader appeal, among practising architects and the wider circles of those who recognize in the techniques and forms adopted by the ancients one of the most important sources of inspiration in facing the problems of contemporary life.

A. W. VAN BUREN

American Academy at Rome

JEWISH SYMBOLS IN THE GRECO-ROMAN PERIOD. Volumes 7 and 8. *Pagan Symbols in Judaism*, by ERWIN R. GOODENOUGH. Volume 7: xviii, 239 pages, 291 figures. Volume 8: xii, 282 pages, 168 figures. Pantheon Books, New York 1958 (Bollingen Series XXXVII) \$15.00

Two more handsome volumes have now been added to Professor Goodenough's *magnum opus*. The author continues, with the same wide-ranging detail and richness of illustration from both literature and art, his argument that the symbols on ancient Jewish graves and synagogues are not mere decoration, but rather the expression of a profound hope of immortal life and union with God.

These volumes comprise Parts IX through XII of the entire work and deal with symbols "borrowed" from paganism. They treat such devices as the bull, lion, tree, Victory and her crown, rosettes, wheels, "round objects," masks, gorgons; symbols primarily erotic, as cupids and birds, and various fertility symbols, among which are the sheep, hare, shell, cornucopia and centaur. Lastly, there is a discussion of psychopomps, as the eagle, griffin, pegasus, ladder, boat and miscellaneous astral symbols. All these, according to the author, express in various ways the hope of salvation, immortal life and eternal happiness.

The symbols treated in these two

volumes, while derived from paganism and retaining their inherent pagan values, were given specific Jewish meanings by those Jews who adopted them, and they came to represent for them a "symbolic lingua franca" to be placed on their graves and places of worship alongside their Jewish cult objects. It may be observed that in not a few instances Goodenough is too confident in identifying as Jewish the inscriptions or other objects from which his examples are taken. Even so, in view of the large number of examples which he cites, the question of the validity of his major thesis is not particularly affected by these dubious cases.

Admitting that his arguments are not absolute proofs but "most probable" conclusions, Goodenough maintains that those who interpret such symbols as primarily decorative must defend their position with equally strong argumentation. Whether one agrees with the author or not, one must admire the eloquence and conviction with which he presents his case, and one can certainly be grateful to him for the bountiful collection of materials which he has made available to those interested in this field.

The ninth volume, we are told, will deal with the Dura synagogue. Whether or not even more volumes will follow is not stated. These two, like their six predecessors, are magnificent specimens of book production, attractive in format, clearly printed and adorned with a wealth of well reproduced illustrations, many of which are published for the first time.

HARRY J. LEON

The University of Texas

GANDHARAN ART IN PAKISTAN. Photographs by ISLAY LYONS. Introduction and Descriptive Catalogue by HARALD INGHOLT. 203 pages, 24 + 577 plates, frontispiece, 3 maps. Pantheon Books, New York 1957 \$18.50

The bibliography of Gandharan art is extensive and has been expanded greatly since the second World War. Monuments of the Romano-Buddhist art of Gandhara are found in many museums, yet only a few of these have been well reproduced. This new volume had its inception as a catalogue of 566 specimens in collections in

Pakistan. The photographer has dealt admirably with the serious problems which these sculptures present to the camera: lack of color contrast in the gray schist from which most of the pieces are carved; deep and intricate relief often involving numerous figures on a small scale; display positions which were sometimes extremely awkward to photograph. To Mr. Lyons' excellent views Prof. Ingholt has prefaced an introduction and a descriptive catalogue arranged with relation not to chronology but to subject matter.

The most important—and perhaps controversial—part of the work is the introduction. Ingholt divides the monuments stylistically and chronologically into four groups: I, A.D. 144-240; II, 240-300; III, 300-400; IV, 400-460. The sources for the stylistic differences he believes to be: in Group I, Parthian Mesopotamia; in Groups II and IV, Sasanian art; in Group III, the Indian art of Mathura. With the stylistic analyses one must in general agree—the vast amount of material available to him has enabled the author to perceive as typical certain traits which earlier scholars may have noted only as isolated phenomena. He has performed the great service of considering a large body of material and of ascertaining the interrelationships of Gandharan sculptures as a whole before seeking the external sources for the several stages of the local development. Yet it is still possible to suggest that the earliest Gandharan sculpture was inspired not by Parthia directly but by the Roman imperial art whence Parthia too drew inspiration. Prof. Ingholt himself calls attention to several parallels with imperial sculpture of the second century (*cf.* nos. 380, 387, 392, 443); examination of the plates will suggest many others. In general the early Gandharan works seem to come closer, technically, to Roman art than do those of Palmyra and Hatra and thus lend support to Soper's view that itinerant Roman artists carried the style to Gandhara. That local craftsmen of Mesopotamia traveled eastward to instruct the Gandharans or that the latter went west to Parthia to receive their training seems improbable. The Begram hoard gives evidence of the movement of Greco-Roman works of art along trade routes as far east as Afghanistan; by these, if not by their artists, the Gandharan sculptors might have

been influenced. Were works of Parthian art (other than textiles) similarly exported to the east?

The Ingholt-Lyons catalogue constitutes a major advance in our understanding of Gandharan art, its sources and its influence. It is to be hoped that this work may be a forerunner to a much-needed *corpus* of the Gandharan sculpture in European and American museums.

HENRY S. ROBINSON

American School of Classical Studies at Athens

THE PROTOATTIC AMPHORA OF ELEUSIS, by GEORGE E. MYLONAS. xvi, 135 pages, 39 figures, 16 plates (2 in color). (Greek text, English summary). Greek Archaeological Society, Athens 1957

When the finding of one Greek vase is singled out as among the most important events in a decade of discovery in Greece (ARCHAEOLOGY 10 [1957] 244), and when that vase is the subject of an entire monograph, it must indeed be an exceptional example of Greek craftsmanship. Such is the Protoattic amphora which Professor Mylonas excavated at Eleusis in June 1954, and which is thoroughly studied and presented here. Used for the burial of a boy, it lay in a shallow cutting. A portion of one side of the vase had been plowed away, but miraculously the greater part was preserved. The 56-inch-high vessel has three figured panels on the front: The Blinding of Polyphemus in a neck panel, an animal frieze in the shoulder zone and the large band on the body with the scene of Perseus and the Gorgons, including the beheaded Medusa. The last is the largest painted panel on a Greek vase (twenty inches high and sixty-eight inches long) and gives a vivid impression of the monumental quality of Greek painting even in early Archaic times, for the study of the painted decoration has suggested a date for the vase in the second quarter of the seventh century B.C.

Although not the largest panel, the Polyphemus scene is the most completely preserved, and Mylonas has indicated its importance in naming the master the Polyphemus Painter. To him he has assigned five other vases or fragments, including the fine Menelas stand in Berlin. Mylonas' detailed analysis of the style of this and other Pro-

toattic vases is an important contribution to our knowledge of the beginnings of the Attic figure style. We find an art far more developed than had been expected at so early a date. The lively portrayals of action in the violent blinding scene and in the almost ballet-like movements of the running gorgons, the levitational posture of the body of Medusa, the majestic figure of Athena, the delicacy of detail, the bold sweeping lines of the ribbon ornament on the reverse of the vase, all point to a masterful artist and innovator.

The monograph is handsomely illustrated with text figures and plates, two of the latter in color. Although the text is in Greek, the eight-page summary in English extracts all the essential data and conclusions. This is fortunate, for the vase is important not only to archaeologists but to all interested in early art. It is, in fact, so important that it is to be hoped that a longer treatment in English may soon appear. Mylonas has said with good reason that the amphora "is one of the best vases, if not *the* best, found thus far on Greek soil."

SAUL S. WEINBERG

University of Missouri

THE ARCHAEOLOGY OF CENTRAL AND SOUTHERN HONDURAS, by DORIS STONE. xii, 135 pages, 38 figures, 46 plates, frontispiece (in color). Peabody Museum, Cambridge 1957 (Papers of the Peabody Museum of Archaeology and Ethnology, Harvard University, Vol. 49, No. 3) \$5.85

Archaeological publications about the countries south of the Meso-American area are rather scarce, owing to scanty investigations in these regions. Therefore every book in this field is full of new and often exciting data. This study completes a general survey of Honduras archaeology, begun in 1941 with a publication on the north coast of Honduras by the same author, who is the only specialist with a thorough knowledge of this country and its archaeological problems. As in her first book, one or more chapters deal with each area covered in the study (the Comayagua region, central, southern and southwestern Honduras). Each area is further divided into drainages, plains or other appropriate natural entities. Besides a historical account of the Indian tribes

settled in the various regions at the time of the Conquest, a great number of sites are located and the wares to be found there are indicated. Here some difficulty arises in using this book, because descriptions of the wares, with one exception (The Comayagua Region), are rather scattered. Since the book lacks an index it is often very difficult to locate a specific ware. For comparative purposes it would have been well to add a chapter summarizing the newly established wares and briefly describing their characteristics. This omission is, however, a minor one, and it is partly balanced by the excellent illustrations.

To this reviewer, some facts were of great interest but sometimes puzzling. One who is familiar with the adjacent regions of El Salvador is impressed by the differences between the two regions, for instance, by the rare occurrence of pottery decorated in the Usulután technique, the most common trait in eastern El Salvador, and the entire lack of Nicoya Polychrome or related wares of this kind in southern Honduras, whereas these are rather abundant in the Salvador part of Fonseca Bay and also in Nicaragua. Here, it seems, are some very important archaeological questions, which should be settled in the future by intensive study. In general the book shows, as the author says, that despite some minor influences from the Meso-American region, central and southern Honduras are basically Central American in pottery traits, linking up with eastern El Salvador, Nicaragua and northern Costa Rica. This publication will be the standard reference work for this region during coming years. One may also hope that pointing out the regions as yet scarcely investigated will give a new impetus to studies in Hon-

duras, which are so badly needed for a better understanding of Central American archaeology.

WOLFGANG HABERLAND
Museum of Ethnology
Hamburg, Germany

THE BEGINNINGS OF CHRISTIAN ART, by D. TALBOT RICE. 223 pages, 21 figures, 48 plates, 3 color plates, color frontispiece, end maps. Abingdon Press, Nashville and New York 1957 \$7.95

Professor Rice, who is well known for his publications in the Byzantine field, has now provided a useful introductory guide to the earlier phases of Christian art. It combines material commonly found scattered in books on Early Christian art, on Byzantine art, and on various aspects of Western Mediaeval art down to the Romanesque. Though written so as to be intelligible to the novice, it is not without interest to the professional.

In the first, most theoretical part of his book, Rice apportions Early Christian art into three trends—picturesque, expressive, neo-Attic—and this will seem congenial to American readers, whom Morey has accustomed to similar differentiation. Rice voices, indeed, the so-called Alexandrine hypothesis (that precipitate of the traditions of the history of literature into history of art which the monuments of art have not obligingly corroborated) but he seems not to be wholly convinced of its validity. *Picturesque* denotes for him what is also called (even by Rice) illusionistic; *neo-Attic* refers to survivals of Hellenic and to archaizing tendencies; *expressive*, which is a qualification admittedly colored by the light of modern Expressionism, indicates for Rice, at least as key components, the stylistic peculiarities of

the art of the Aramaic East and its derivatives.

In the rest of the book Rice takes as *points d'appui* major or significant monuments, and from these tangible supports he hangs a most interesting and lucid web of description, comparison, interpretation and argument. It is refreshing to encounter a scholar who is willing to take up the case for the creative role of artists in Constantinople during the early centuries of that city's hegemony. On account of the continuous course of Byzantine art he carries on his consideration of it beyond the date of his book's terminus for the West (the rise of the Romanesque), including Balkan art even after the final fall of the Byzantine Empire. Neither this variation in the time covered in East and West nor the limitation of the book in the main to painting has prevented its author from presenting an undistorted and unitary picture.

The book deserves wide circulation. In the hope that the demand will justify a second printing, it seems permissible to make the suggestion that the author give the book the benefit of a careful re-reading. He could easily eliminate various misspellings, particularly of proper names, and correct a few captions. Also he doubtless knows that Boscoreale is not near Rome (page 21) and that there are no "portrait groups of Justinian and Theodora" in the mosaics of S. Apollinare in Classe (page 82). But we all live in glass houses. And it would be an oversight not to congratulate the author, as well as to thank the publisher, for offering us a book so carefully produced—even to the ingenious dust jacket.

JOHN SHAPLEY
Catholic University

VANISHED CITIES, by HERMANN and GEORG SCHREIBER. Translated by RICHARD and CLARA WINSTON. xxii, 344 pages, 35 figures, 48 plates, 3 maps. Alfred A. Knopf, New York 1957 \$5.75

The Schreibers' book is one more addition to the seemingly endless stream of popular works on archaeology. This one deals with the rise and fall of numerous ancient cities, which are somewhat peculiarly grouped according to whether they met destruction through forces of nature, thrived as centers of commerce and luxury, or

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were destroyed by warfare. One wishes the chronological table at the end of the book had suggested to the authors a less confusing method of subdivision. Most of the cities described are of the Classical Mediterranean world, with a few others such as Tiahuanaco, Angkor and Zimbabwe thrown in for good measure.

W. CREIGHTON GABEL
Northwestern University

BRIEF NOTICES

THE GOLD OF TROY. The Story of Heinrich Schliemann and the Buried Cities of Ancient Greece, by ROBERT PAYNE. 273 pages, 1 figure, 16 plates, 1 map. Funk and Wagnalls, New York 1959 \$3.95

Schliemann's life was one which lends itself to fictionalization; actually it is hard for fiction to outrun fact. Robert Payne has made a good story of it. There are some inaccuracies in archaeological terms and facts, and probably some in psychological interpretation as well, but on the whole the story of this fascinating man is extremely well told.

I RITROVAMENTI DELL' ANTRO COSIDETTO "DI TIBERIO" A SPERLONGA, by GIULIO IACOPI. 38 pages, 28 text illustrations. Istituto di Studi Romani, Rome 1958 500 lire

A comprehensive preliminary account, by the archaeological administrator in charge, of the remarkable developments at this already famous seaside cave, on the border between Latium and Campania.

THE POOL AND IRVING VILLAGES, A Study of Hopewell Occupation in the Illinois River Valley, by JOHN C. MCGREGOR. xii, 232 pages, 59 figures, 12 tables. University of Illinois, Urbana 1958 \$3.50

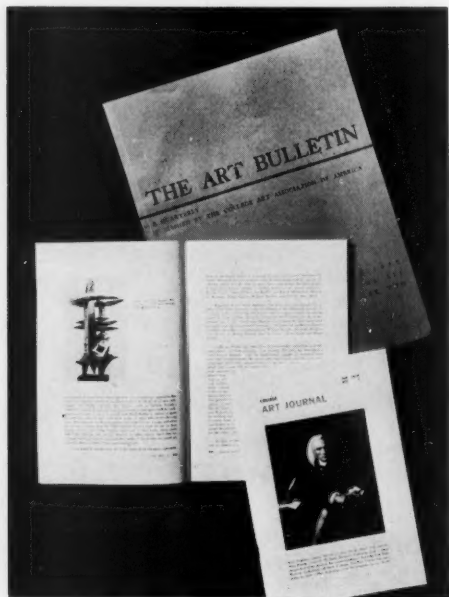
A thorough analysis of data from somewhat limited digging in two Hopewell villages; of most general interest will be McGregor's series of hypotheses about the nature of Hopewell culture, its origin, transmission and disappearance. He makes it clear that most of the mystery with which Hopewell was once surrounded can be dissipated, but that further work, particularly in village sites, is needed for a full understanding of this impressive cultural flowering.

AMORI E AMANTI DI POMPEI ANTICA, by MATTEO DELLA CORTE. 115 pages including illustrations. Published at Pompeii by the author; obtainable also from L'Erma di Bretschneider, Rome 1958 1500 lire

The author is the recognized authority in the interpretation of the informal inscriptions scratched or painted on the wall surfaces of Pompeii. Here he makes use of the inoffensive portion of this unique material, combined with representations in painting and sculpture, for reconstructing the love-life of the inhabitants.

EXCAVATIONS, 1940, AT UNIVERSITY INDIAN RUIN, TUCSON, ARIZONA, by JULIAN D. HAYDEN. xii, 234 pages, 8 figures, 49 plates. Southwestern Monuments Association, Gila Pueblo, Globe, Arizona 1957 (Technical Series, Vol. 5) \$4.00

This report on work done by the C.C.C. in 1940 was completed in 1942; the delay in its publication explains certain departures from current ideas on Hohokam archaeology. However, carefully excavated sites of the thirteenth and fourteenth centuries are



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none too numerous in southern Arizona, so that this is a welcome addition to our knowledge. The author reports all details of the site meticulously, and the editor has permitted a generous number of oversize maps and cross sections. In his concluding sections Hayden makes interesting comparisons with other sites of the region and proposes several hypotheses to explain the rapid changes during the period concerned.

AMERICAN INDIAN WAYS OF LIFE, An Interpretation of the Archaeology of Illinois and Adjoining Areas, by THORNE DEUEL. 76 pages, frontispiece, 38 illustrations, 3 tables. Illinois State Museum, Springfield 1958 (Story of Illinois Series, No. 9) \$0.25

Although written for the layman and focused on Illinois, this little book will be of interest to anyone who wishes to gain a general view of the archaeology of the Middle West. Illustrations are excellent, the site and phase names used are explained in the text or in the glossary, and a short classified bibliography is supplied. Specialists may take issue with some details of Deuel's interpretations, but the general culture sequence will be familiar to them.

MOSAICI DI S. APOLLINARE NUOVO. DI RAVENNA, Il Ciclo Cristologico, by GIUSEPPE BOVINI. 81 pages with illustrations, 26 plates. Arnaud, Florence 1958 12,000 lire

A sumptuous quarto publication of these famous mosaics, the striking qualities of which appear to advantage in the colored illustrations. The clear text and the illustrations have benefited by the recent reconditioning of the mosaics and mark a distinct advance in the understanding of both the iconography and the art. This edifice was due to the initiative of the Ostrogothic and Arian King Theodoric and was erected probably between A.D. 520 and 530. The twenty-six panels here treated adorn the upper parts of the side walls of the central nave; the figures stand out in elementary colors against a gold background; each side wall shows the individual manner and personality of an artist of exceptional quality. The two artists are nameless, but may be distinguished by reference to the Miracles of Christ and the Passion of the Savior respectively.

LATE PLEISTOCENE GEOCHRONOLOGY and the Paleo-Indian Penetration into the Lower Michigan Peninsula, by RONALD J. MASON. iv, 48 pages, 3 figures, 9 plates, 7 tables, 5 maps. Museum of Anthropology, University of Michigan, Ann Arbor 1958 (Anthropological Papers, No. 11) \$1.00

In this important and clearly written study, the initial human occupation of the Great Lakes area is shown to be approximately as early as in the Plains and Southwest. Big game hunters, using fluted points, entered Michigan from the south about 13,500 years ago, close behind the retreating glaciers. Mason skilfully combines data from glacial chronology, lake levels and provenience of 115 fluted points to make a valuable contribution to "paleo-eastern" culture history.

THE DAWN OF EUROPEAN CIVILIZATION, by V. GORDON CHILDE. Sixth edition. xii, 368 pages, 159 figures, 4 maps. Alfred A. Knopf, New York 1958 \$7.50

Today as much as in 1925, when the first edition appeared, *The Dawn* is the only full and well documented synthesis of the Neolithic period and the Early Bronze Age of all Europe. This last edition was fully revised to 1955 and appeared just before the author's death in 1957. It will remain an invaluable handbook of European prehistory, an instrument for initiating research into innumerable questions on the highly complex patterns of cultural development in Europe and, above all, the best tribute to the breadth and depth of Childe's learning.

LE VILLE DEL MONDO ROMANO, by G. A. MANSUELLI. 116, 2 pages, 19 figures. Pleion, Milan 1958 1200 lire

A development from the author's official investigations in the Emilia and Romagna: an instructive study in the appreciation of this class of edifice: its relation to the civilization of Rome; types and development; decoration; the villa and its environment; the villa and the Roman economy; followed by a survey of a selection of typical villas in Italy, in the European provinces, and in those of Asia and Africa; in conclusion, a group of late antique villas, exhibiting a different culture with a prevalence of Oriental elements.

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ALBUM OF DATED LATIN INSCRIPTIONS, Part I, by ARTHUR E. GORDON in collaboration with JOYCE S. GORDON. Text volume, iii, 160 pages; plate volume, 67 plates. University of California Press, Berkeley and Los Angeles 1958 \$15.00

A study of dated Latin inscriptions from Augustus to Nerva, to establish chronological criteria for dating undated texts. Included are an introduction, inscriptions on 159 stones, and discussions of the dates of each. There is a list of epigraphical contributions to the present study, as distinguished from the palaeographical, with which the authors are primarily concerned.

CONTRIBUTIONS TO THE PALAEOGRAPHY OF LATIN INSCRIPTIONS, by JOYCE S. and ARTHUR E. GORDON. xii, 65-242 pages, 36 figures, 8 plates. University of California Press, Berkeley and Los Angeles 1957 (University of California Publications in Classical Archaeology, Vol. 3, No. 3) \$4.50

The *Contributions* are based on a study of material from the *Album of Dated Latin Inscriptions, Part I*, stone inscriptions of the period from Augustus to Nerva, with some material taken from other inscriptions datable to A.D. 98-500. In fact, this study was intended to be part of the *Album*, but was too extensive to be included in it. The book is in two parts:

Aspects of Lettering, and Miscellaneous Features. The authors employ modern palaeographical terminology to unite here for the first time the fields of palaeography and epigraphy.

I.I.C. ABSTRACTS: Abstracts of the Technical Literature on Archaeology and the Fine Arts, edited by RUTHERFORD J. GETTENS. Volume II, No. 1. Spring, 1958. 86 pages. The International Institute for the Conservation of Museum Objects, London 1958 \$0.80

An extremely useful record of recent publications on technical aspects of art and archaeology, with brief, clear summaries of the contents of each volume or article.

IN THE STEPS OF THE PHARAOHS, by JEAN LECLANT. Photographs by ALBERT RACCAH. 128 pages including 70 plates (8 in color). Hastings House, New York 1958 \$8.50

A beautiful picture book on ancient Egypt, with exquisite photographs of temples and tombs, rocks and desert, architecture, sculpture, relief and painting. Professor Leclant, of the University of Strasbourg, has written an imaginative introduction and furnished lucid comments. His text has been cruelly mangled by the anonymous translator whose ignorance of the subject is embarrassing ("Low Period" for "Basse-Époque," "Terraced Pyramid" for "Pyramide à degrés," "Lagides" instead of "Ptolemies," etc.). This detracts but little from the splendid, nostalgia-evoking, views of monuments in the Nile Valley.

INDIAN ART OF THE AMERICAS, by DONALD COLLIER. 64 pages, 67 illustrations. Chicago Natural History Museum, Chicago 1959 \$1.00

An illustrated catalogue of the exhibition "Indian Art of the Americas" held at the Chicago Natural History Museum. Outstanding art objects, both archaeological and modern but with strong emphasis on the former, were lent by many museums and added to those of the host museum. Excellent photographs occupy nearly three-quarters of the brochure. There is a short essay on "The Diversity of Indian Art" and a well chosen list of "Suggested Reading."

ILLINOIS ARCHAEOLOGY. x, 61 pages, 10 figures. University of Illinois, Urbana 1959 (Illinois Archaeological Survey, Bulletin 1)

An excellent, authoritative and up-to-date popular sketch of the archaeology of Illinois, consisting of ten articles written by seven qualified specialists. Seven articles describe as many sequential periods from the Paleo-Indian to the Historic. Each is accompanied by an illustration showing the typical artifacts of the period, type of dwelling, costume or other characteristics, and is followed by a list of suggested readings. A chronological chart and maps showing tribal locations and migrations enhance the scientific value of this sound work.

CATALOGUE DES TERRES CUITES GRECQUES ET ROMAINES, by MILIVOJE VELIČKOVIĆ. 120 pages, 29 plates. National Museum, Beograd 1957 (Antiquité III)

Sixty-three terracottas of the Greek period, twenty-one of the Roman, from various sites in Greece and Yugoslavia, illustrated with good photographs. Full text in French as well as in Serbo-Croat.

MIRMEKI, Wykopaliska Odcinka Polskiego, by CASIMIR MICHAŁOWSKI. iv, 152 pages, 141 figures, 3 tables, 3 plans. Państwowe Wydawnictwo Naukowe, Warsaw 1958 (Wykopaliska Polsko-radzkie w Mirmeki, I)

The report of the first Polish archaeological expedition to the Crimea, in 1956. The site, near Panticapaeum, offered Hellenistic and Roman remains, including an interesting winery and numerous finds of ceramics, metal, glass and coins. A well illustrated publication with summary in French.

ANCIENT POTTERY OF EREZ YISRA'EL, by RUTH AMIRAN. 28 pages, 1 chart. Selected bibliography by M. C. SALZMANN. Ministry of Education and Culture, Department of Antiquities, Jerusalem 1958 I.L. 1

A brief, informative survey of Palestinian pottery from prehistoric times through the Byzantine period. A chart of pottery shapes, chronologically arranged, and a bibliography make this booklet extremely useful.

TOPOGRAFIA E URBANISTICA DI ROMA, by FERDINANDO CASTAGNOLI and others. 794 pages, 166 plates, 8 plans in separate cover. L. Cappelli, Bologna 1958 (Istituto di Studi Romani, *Storia di Roma*, Vol. 22) Price about 5,000 lire

The first quarter of this volume consists of Castagnoli's treatment of the ancient topography and city-planning of Rome; it will not replace, for purposes of exact scholarly research, Huelsen's fully documented volume of Jordan's *Topographie* and his and Kiepert's *Formae Urbis Romae Antiquae*, but its aim is somewhat different. It is a readable, independent and up-to-date interpretation along broad lines, and should serve as an essential aid in future study of the ancient city; the abundant illustrations are effective and helpful.

MAYA, The Riddle and Rediscovery of a Lost Civilization, by CHARLES GALLENKAMP. xvi, 240 pages, frontispiece, text figures, 32 plates. David McKay, New York 1959 \$5.50

A rambling, popularly written description of the Maya, with emphasis on a few of the more familiar sites. For chronological and interpretative materials the author depends heavily on Sylvanus Morley and Eric Thompson, to whom the reader may prefer to turn directly.

GALLERIA DEGLI UFFICI, Le Sculture, Part 1, by GUIDO A. MANSUELLI. 289 pages, 326 figures. Libreria dello Stato, Rome 1958 10,000 lire

A volume in the series *Cataloghi dei Musei e Gallerie d'Italia* produced by the Ministry of Public Instruction. It covers, in 319 items, the ancient sculptures of the historic Florentine collection—mostly derived from Roman excavations of former centuries—with the exception of the portraits and the "iconic" statues. Like the others in the series, it is far more than the conventional museum catalogue; much of the material is now for the first time really rendered available to students not in Florence, who will be assisted by the full and competent presentation of the familiar masterpieces and, not least, by the exact information here supplied as to the often drastic restorations which many pieces underwent in past times.

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